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Galaxy

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Science Fiction

Charles Sheffield LEGACY

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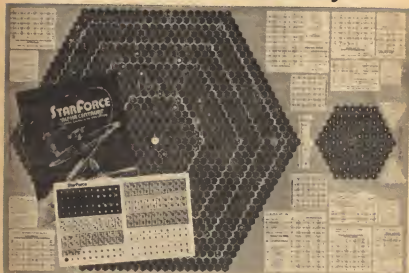
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Legacy

At first it was thought that they were invaders from the Deep; the truth was far stranger.

THE MONSTERS FIRST CAME to public attention off the coast of Guam. They stood quietly on the sea bed, three of them abreast, facing west towards the Guam shore. Behind them, plunging away rapidly to the abyssal depths, lay the Mariana Trench. Faint sunlight fled about their shadowy sides as they stirred slowly in the cold, steady upwelling.

To the startled eyes of Lin Maro as he cruised along in his new gilled form, they seemed to be moving forward, slowly and purposively breasting the lip of the coastal shelf and gliding steadily from the black deeps to the distant shore. Lin gasped, forgetting his long months of training and bio-feedback control and pulled a pint of warm sea water into his lungs. Coughing and spluttering with gills working

overtime, he surged one hundred and fifty feet to the surface and struck out wildly for the shore and safety. A quick look back convinced him that they were pursuing him.

His glance caught the large, luminous eyes and the ropy tendrils of thick floating hair that framed the broad faces. He was in too much of a hurry to notice the steel weights that held them firmly and remorselessly on the sea bed.

The reaction onshore was somewhere between amusement and apathy. It was Lin Maro's first time out in a real environment with his gilled form, and everybody knew there was a big difference between simulation and the real thing. A little temporary hallucination, a minor *troupe l'oeil* from the central nervous system; that wasn't hard to be-

Charles Sheffield



lieve on the first time out with a new BEC form. BEC guaranteed against physical malfunctions but sensory oddities weren't in the warranty. It took long, hard arguing before Mafo could get anyone to show even polite interest. The local newsman who finally agreed to take a look did so as much from boredom as from belief. The next day they swam out Mafo in his gills, the reporter in a rented scuba outfit.

The monsters were still there all right. When they swam down to look at them, it became clear that En had been fleeing from three corpses. They swam around them, marvelling at the greenish scaled skin and the great dark eyes.

When the story went out over the ComSat connections, it was still a long way down the news lists. For three hundred years, writers had

imagined Monsters of the Deep coming out of the Mariana Trench and tackling human civilization in a variety of nasty ways. Silly season reports helped to fill the blanks between famines and the real crises, but they got scant interest from the news professionals. Nobody reported panic along the coast, or fled to the high ground.

The three monsters got the most interest from the Guam aquarium and vivarium. A party of marine biologists inspected them on the sea bed, lifted them—shackles and all—to the surface, quick-froze them and whipped them back to shore on the Institute's hovercraft. The first lab examinations showed immediate anomalies. They were land animals, not marine forms. lung breathers with tough outer skins and massive bone structure.

As a matter of routine, tissue microtome samples were taken and a chromosome I.D. run for matches with known species. The patterns were transmitted to the central data banks.

At that point every attention light on the planet, figuratively speaking, went on, the whistles blew and the buzzers buzzed. The computer response was unambiguous and instantaneous. The chromosome patterns were human.

The information that moves ceaselessly over the Earth, by cable, by ComSat Link, by Mattin Link, by laser and by microwave, is focused and redistributed through a small number of nodes. At one of these nodes sits the Office of Form Control; and in this office, delicately feeling the vibrations and disturbances of the normal patterns that flow in along the strands of the information web, sits Behrooz Wolf. The spider analogy would not displease him, though he would point out that his is only one of many webs, all interlocking. Not by any means the most important one: Population, Food and Space Systems all have much bigger staffs and bigger webs. But he would argue that his problems have the shortest response times and need a reaction speed that the others can manage without.

Take the Mariana Monsters—the Press' dubbing—as an example. As soon as the chromosome patterns were revealed as human, the Form Control office was alerted. It looked as though a group of humans had

been using the bio-feedback machines in unsuccessful form-change experiments. Were the experiments authorized, and were the resulting forms on the forbidden list? Was quick action needed to stop the appearance of a new illegal form?

Behrooz Wolf sat in his office as the data began to flow in. None of the official and approved form-change experiments was anything like the one found off the shore of Guam. In addition, cell tests were looking strange in both chemistry and structure. The lungs were modified, showing a change in alveolar patterns, as though the creatures were adapting to high pressure. And the big eyes, although sensitive to low light levels, were most sensitive in the near infrared wavelengths that are cut off almost completely under water.

Bey Wolf liked to approach his job using very basic questions. What was the objective of a form? Where would it operate most effectively? From those answers, he could usually guess the next step in the form-change sequence. The Mariana Monsters were breaking the rules. They did not seem to be adapting to any environment at all.

All right, let's try another tack. The Monsters hadn't got there by themselves. After they had died, apparently of asphyxiation, they had been weighted with steel, then dropped, probably from a ship, to the sea bed. Where had they come from? Bey had a complete list of the world's form-change centers at his fingertips, especially the ones that were elaborate enough to need special life support systems. That

offered no clues either.

Wolf's unsuccessful initial probing was interrupted by the arrival of his assistant John Larsen, back from a routine meeting on the certification of new BEC forms. He poked his cheerful face in the door, then stopped, surprised by the mass of new listings and piles of form-change tabulations that had appeared in Bey Wolf's already cluttered office.

"Come in, John," Wolf waved an arm. "What did you pick up at your meeting? Anything interesting?"

Larsen dropped into a chair, pushing a pile of listings out of the way and marvelling as usual at Bey's ability to operate cleanly and logically in the middle of such a mess.

"Two good ones," he replied. "C-forms, both of them, adapted for long periods in low gravity. They'll revolutionize asteroid work. There were the usual formal protests from the Belter representatives."

"There'll always be Luddites." Bey Wolf had a weakness for outmoded historical references. "That law will have to change soon. The C-forms are so much better than the old ones that there's no real competition. Capman has changed space exploration forever, as soon as the Belters will let his work be accepted. Here, let me fill you in on our latest headache."

He ran rapidly over the background to the Mariana discoveries, finishing with the question of where they had come from.

"I suspect that they got into the general area of the Marianas through one of the Mattin Links.

The question is, which one? We have twenty to choose from."

John Larsen went over to the wall display, which was showing the locations of the Mattin Link entry points.

"We can rule out a few of them; they're open ocean and only act as transfer points. Have you correlated the form-change lab locations with the Mattin Link entry points?"

"I'm waiting for that to come back from the computer. I've also asked for an identification of the three individuals whose bodies were found on the sea bed. I don't know why that's taking so long. Central Records knows that it's a high priority item."

He joined Larsen at the wall charts, and they reviewed the locations of the Mattin Links that serve as the twenty pivot points for the global transportation system. When the communicator screen beeped for attention Larsen went to it, leaving Wolf engrossed in the wall charts. He watched the first words of the message scroll onto the screen, then whistled softly.

"Come and look at this, Bey. There's the reason Records took a while to get us an I.D. from the chromosome pattern."

The message began: 'I.D. Search completed and identification follows: Individuals are: James Pearson Manaur, age 34, nationality U.S.F.; Caperta Leferte, age 26, Nationality U.S.P.; Lao Sarna Prek, age 30, Nationality U.S.F. Continue/Halt?'

Wolf hit 'Continue' and the detailed I.D. records appeared—education, work history, family. But their attention was already

elsewhere. The three dead men were all members of the United Space Federation; that spelled out a mystery.

The United Space Federation had declared its sovereignty fifty years earlier, in 2142. With headquarters at the Tycho lunar base, it represented the interests of all the humans living off-Earth, in the Belt, on the Moon, and in the Earth-Moon Libration Point colonies. U.S.F. citizens were rarities on Earth, and the disappearance of three of them should have roused an outcry long before their changed bodies had been found off Guam.

The two men looked at each other. Wolf nodded at Larsen's puzzled expression. "It makes no sense. The U.S.F. has an out-and-out ban on form-changes. If they won't accept the C-forms, it's even less likely they'd be doing independent development of new forms. One thing is for sure, I'll have to get a U.S.F. man in here—it's too sensitive now."

He looked gloomy. The investigation had just grown two orders of magnitude. There was no way to go further without involving U.S.F. representatives. Already they were on the verge of an interplanetary incident.

The communicator continued to pump out information, in display and hard copy. Wolf noticed that it was giving the correlation he had asked for between form-change centers and Mattin Link entry points. It was going to be a long and confusing day.

Not surprisingly, BEC was getting into the act too. An incoming news release set out their official

position on the Mariana Monsters.

'Biological Equipment Corporation (BEC) today released a formal statement denying all knowledge of the human bodies discovered recently off the coast of Guam. A BEC representative said that the bodies had clearly been subject to form-change, but no BEC program developments, past or present, could lead to forms anything like those found. In an unusual procedure, BEC released records showing forms now under development in the Company and invited Government inspection of their facilities. BEC is the pioneer in and world's largest manufacturer of purposive form-change equipment utilizing biological feedback control methods.'

Bey read the release through and passed it to Larsen.

"It looks as though BEC is in the clear but running scared. I've been waiting for them to plead innocent or guilty. That's another prospect off the list of possibles."

* * *

Larsen trailed out with yards of listings. Bey Wolf sat back again to wait for a pattern to emerge. The facts were suggestive. One name kept coming into his head, haunting him out of the past. Robert Capman, inventor of the C-forms, recognized without dispute as the greatest-ever expert on form-change methods. Robert Capman, ex-Director of Central Hospital and advisor to the Planetary Coordinators. But also Robert Capman, branded as a mass murderer and officially dead for six years.

Top U.S.F. men, like top kanu players, are usually on the small skinny side. It was a surprise to greet a wrestler, two meters tall, and find he was the U.S.F. man assigned to work with Form Control on the Guam case. Bey Wolf glanced up at him and bit back the question on the tip of his tongue.

Park Green was regarding him closely, a smile on his big, baby face.

"Go on, Mr. Wolf, ask me," he said. "Most people do eventually. In fact, let me answer you in advance. No, I don't use the bio-feedback equipment and form-change myself this way. It's completely natural. But it makes life hard when you're trying to act as representative to the U.S.F., and form-change is illegal off-Earth."

Bey Wolf nodded appreciatively. "On the mark. I didn't think I was so easy to read."

"I've had lots of practice on that question. Let me ask you some. What's new on the Guam case? I've got to give a report back to Tycho City tonight. Do you know the time and cause of death yet?"

"Three days ago. They all died within about twelve hours of each other, of asphyxiation—and here's the strange part. Their lungs were full of normal air. No gaseous poisons, no contaminants. They shouldn't have choked. They were dropped off Guam about twenty-four hours after they died, almost certainly at night. My guess is that they died somewhere a long way from there."

"Excuse my ignorance of the case, but I don't follow your logic."

"Well, it is conjectural. But I think they were intended for the bottom of the Mariana Trench. Five miles down, they'd never have been found. I think they were accidentally dropped a few miles too far west—by somebody who didn't know the local geography too well. I'd say they died by accident, and somebody was keen to hide the evidence as far away as they could. You don't look very surprised," Wolf added, seeing that Green was slowly nodding agreement.

The big man squeezed himself into a chair and rubbed his chin with an eleven-inch hand.

"It fits with some of the things I know myself," he replied. "What else did you find out about the three dead men?"

"Not much," replied Wolf. "They were Belters, all off the same ship, the 'Jason.' They arrived here on Earth three weeks ago with plenty of money. Nobody heard of them again until they were found off Guam. We don't trail U.S.F. citizens unless we get a request from you for it."

"That's all correct as far as it goes," agreed Green. "You are missing a few things that make a big difference. First, you say they were Belters, and technically you are right. But in U.S.F. wording, they were really Grabbers. They had been out in space on the 'Jason' for over two years—."

* * *

Caperta Laferte, spotter for the U.S.F. Class B cargo ship 'Jason,' was watching the scope of the deep radar with mounting excitement. By

his left hand, the computer print-out was chattering with increasing speed as it performed the final orbit match and confirmed the tracking of the find.

Laferte wiped the perspiration from his face with a dirty cloth.

"It matches exactly," he told the other two. "And it looks like a big one. I'll be able to get us a radioactivity reading from it in a couple of minutes. But it's a piece of old Loge, no doubt about it."

The others hovered about in impotent excitement. Until they had matched and docked it was one man's work and they could do nothing more useful than speculate on their trophy. Grimy and worn, all three looked like men who had endured more than two years of solar flares and radiation storms, celibacy and grinding boredom. It would all be worth it. If this were the big one, it would pay for all of it. Wine, women and song were on the way.

"Radioactivity count coming in now," announced Laferte. "I've tuned it for the 15 MeV dipole transition from Asfanium. Keep your eye on the counter. If it hits forty or better, it's the jackpot."

The digital read-out was climbing steadily. At twenty they lost it for a second. Laferte swore, bent back over the control panel, and recalibrated. It climbed again, past twenty, to thirty, to forty, and was still moving steadily upwards. They all shouted and James Manaur and Lao Sarna Prek joined hands and began a curious Walrus-and-Carpenter dance. It was the best that could be managed in the combination of free-fall and confined

space. The future was a rosy glow, full of wealth, high living and excitement. Old Loge had been gone a long time, but enough of him had come back to gladden a few hearts.

* * *

"—looking for transuranics," said Green. "Maybe you know, the only natural source in the Solar System is still the fragments of Loge that come back into the System as long-period comets. The Grabbers just sit out there for years and monitor using deep radar. One decent find and they are made for life. The 'Jason' caught a good one about three months ago, packed with 112 and 114 Asfanium and Polkium. They extracted the transuranic elements from the fragment and rolled into Tycho City a month ago, rich as Karkov. They started to celebrate and three weeks ago they came to Earth to continue the spree. After that we lost touch with them and don't know what they did. We expected them back when the fleshpots palled. Want me to make a guess on what they did?"

Wolf nodded. "I think I see where you are leading, but go on."

"They came to Earth," continued Park Green. "Now, I saw them just before they left Tycho. They looked terrible. A couple of years of hardship in space, then a celebration that you wouldn't believe when they reached the Moon. If you came to Earth in that condition, wouldn't there be a big temptation to do something a bit illegal—and hook-up for an intensive session with a bio-feedback machine, set to get you back to tip-top physical shape

as fast as legally possible—or faster?"

"There certainly would," Wolf agreed. "I know a thousand places where it could be done. What you say makes perfect sense. Now let me pick up on my side of it."

He pressed the inter-office communicator and asked John Larsen to join them. When Larsen entered the room, Bey Wolf turned again to Park Green.

"Before I get John's opinions, tell me what you know about Robert Capman. I assure you it's relevant," he added, seeing Green's puzzled look.

The big U.S.F. man thought for a moment before he replied.

"All I can really tell you is what I've heard in Tycho City," he said finally. "Capman was a great man here on Earth, a genius who invented the series of form-changes that we now call C-forms, adapted for life in space. He did it using human children as the subjects for form-change experiments. Some of them died. He was found out a few years ago and died himself trying to escape. Is there more to know?"

"I think there is, but I may be biased," replied Wolf. "For one thing, it was John and I who handled the case and blew the whistle on Capman. Now let me ask you, do you have strong feelings about Capman, personally?"

Green hesitated again. "That's really a tough one. I know his reputation for great genius. And honestly, I don't know enough to say if he was fairly treated when he was accused of using human children in his work. But I will tell you, as a representative of the U.S.F. I have

to be against Capman. After all, he was the man who invented the forms that are supposed to make me and my fellows as obsolete for life in space as the dinosaurs—the forms he came up with don't need much air, they're radiation tolerant, and they can adapt to run at high or low metabolic rates. I've no reason to like the man, for those reasons alone. Why do you ask?"

"I have a reason," said Wolf. He turned to Larsen. "John, you were there when Capman died. Did he die?"

"I thought so at the time." John Larsen sighed and shrugged his shoulders. "Now, I'm not so sure." He turned to the U.S.F. man. "Bey is convinced it was a set-up, and I must admit it had the makings of one. He hasn't been heard of for the six years since then, but I'll tell you, in the last day I've been thinking about him. These Guam form-changes have just the marks of Capman."

Wolf looked at Larsen with relief and increased respect. "I'd been thinking that, John, myself, but it seemed too unlikely to come right out and say it." He turned again to Park Green. "Now, you see how our thoughts have been running. Earth's greatest expert ever on form-change, Robert Capman. Maybe still alive, in hiding, somewhere on Earth. And along comes a set of form-changes that defy all logic, that conform to no known models. It could be Capman, up to his old tricks again. Either way, if Capman is alive, he'd be just the man to talk to about this. John or I could have added one other thing—neither of us ever met a

man, before or since, who impressed us as much with his sheer intellectual power."

Green moved about uneasily in his seat. "It's clear you're selling me something, but I still don't know what it is. What are you leading up to?"

Bey Wolf nodded vigorously. "Only this, I want to find Robert Capman. And I have a very strong suspicion of my own. I think he's *not* on Earth—hasn't been for the past six years. Will you help me reach him, if he's somewhere in the U.S.F. territories? I don't know if it's the Moon, the Belt, the Libration Colonies, or where—but I do know I can't get messages out there without U.S.F. help!"

Green looked speculative. "I can't give you an instant answer," he said. "I'll have to discuss it in person with Ambassador Brodin, and he's in Argentina." He stood up. "What's the best way to get me there?"

"Through the Mattin Link system. There's an entry point in central Argentina. We are only ten minutes away from the Madrid link—two jumps and you'll be there. Come on, I'll show you how to use it."

They hurried out, as Green explained that he was having trouble getting used to the complexity of the Earth system. The Moon had only four link entry points. The Earth had twenty and he had heard there would be more added. Was that true?

It was not, and it would never be. The Mattin Link system offers direct and instantaneous transmission between any adjacent pair of

entry points. But the number of entry points, and their placing, is very rigid. Since it requires perfect symmetry of any entry point with respect to all others, the configuration must fit one of the five regular solids. Plato would have loved it.

The dodecahedral system, with twenty vertices on the surface of the Earth, is the biggest single system that can ever be made. The Lunar system, with its four entry points at the vertices of a regular tetrahedron, is the simplest. And Mattin Links away from planetary surfaces are impractical because of changing distances.

Gerald Mattin, who had dreamed of a system for instantaneous energy-free transfer between any two points anywhere, died a disappointed man. The present system is far from energy-free—because the Earth is not a homogeneous perfect sphere, and space-time is slightly curved near it. Mattin had an energy-free solution defined for an exact geometry in a flat space-time. He died twenty years before the decision to build the first Mattin Link system, twenty-five years before the first university was named after him, thirty years before the first statue.

* * *

"We have a go-ahead, but I had to bargain my soul away to get an agreement from the Ambassador. Now, where do we go from here?"

Park Green was back in Bey Wolf's office, shoes off, long legs stretched out and adding to the general appearance of confusion. Wolf and Larsen were again over by the

wall display, plotting the Mattin Link paths from the Mariana Trench entry point and the Australia entry point near the spaceport where the crew of the 'Jason' had arrived on Earth. Wolf read off the results before he replied to Park Green.

"The North Australian entry point connects directly to the Marianas, Southern New Zealand and an Indian Ocean transfer point. The Mariana entry point connects directly to North China, Hawaii and back of course to North Australia. None of those connections looks promising, there's no big form-change lab near any of them. So either my guess about the use of the Link system is wrong, or the people who moved the Monsters did more than one jump in the system. Two jumps takes us a lot further afield—to almost anywhere. Up to the North Pole, to Cap City at the South Pole, or into India, or up to western North America."

He looked over at Park Green. "It's a mess. I'm more convinced than ever that we need to find Robert Capman and develop some idea what was happening when the three men died. They obviously started on some form-change program and somewhere along the line it got fouled up. How? I wish I could ask Capman that question."

"So let me repeat my question," said Green. "What do we do next, and where do we go from here? Advertising for Capman won't solve the problem—he'll be treated as a mass murderer if he ever does show up alive."

"I think I can produce a message that Capman will recognize and be intrigued by, but others won't," an-

swered Wolf. "As for protecting him if he does show himself, I'm not worried about that. I'm sure that he'll have found a way to cover himself in the past six years. I've got another worry of my own. We have no way of knowing how urgent this thing is. It could be a once in a lifetime accident or the start of a general plague. Until we know which I have to look on it as the hottest thing on my list of problems. Let me take a cut at the message to Capman."

The final announcement was short and simple. It went out on a general broadcast over all media to the eight billion on Earth, and by special transmission to the scattered three million members of the United Space Federation.

"To R.C. I badly need the talents that caused me to pursue you six years ago through the by-ways of Old City. I promise you a problem worthy of your powers. Behrooz Wolf."

* * *

Troubles were mounting. Bey spent a couple of hours with a representative of BEC, who insisted on presenting more confidential records to prove that the company had no connection with the monster forms found in Guam. The Central Coordinators sent him a terse message, asking him if there would be other deaths of the same type, and if so, when and how many? Park Green was getting the same sort of pressure from the U.S.F. Unlike Bey Wolf, the big man wasn't used to it and spent a good part of his time in Bey's office, gloomily biting his

nails and trying to construct positively worded replies with no information content.

Two days of that brought a stronger response from Tycho City. Bey arrived in his office early and found a small, neatly dressed man standing by the communicator calling out U.S.F. personnel records. He turned at Bey's entry, with no sign of embarrassment at his intrusion, and looked at Bey for a second before he spoke.

"Mr. Green?" The voice was like the man, small and precise.

"He'll be in later. I'm Behrooz Wolf, head of Form Control. What can I do for you?" Bey was somewhat conscious of his own casual appearance and uncombed hair.

The man drew himself up to his full height. "I am Karl Ling, special assistant to the U.S.F. Cabinet. Here are my credentials." The tone was peppery and irascible. "I have been sent here to get some real answers about the deaths of three of our citizens here on Earth. I must tell you that we regard the explanations given so far by your office and Mr. Green as profoundly unsatisfactory."

"Arrogant bastard," thought Bey, while he looked for a suitably conciliatory answer.

"We have been doing our best to provide you with all the facts, Mr. Ling," he said. "It seemed unwise to present theories until they can be definitely verified. I'm sure you realize that this case is complex and has features that we haven't encountered before."

"Apparently." Karl Ling had taken a seat by the communicator and was tapping his thigh nervously

with a well-manicured left hand. "For example, I see that you are giving the cause of death as asphyxiation. But you tell us also that the dead men had plenty of air in their lungs, and that there were no poisonous constituents. Perhaps you would like to present your theory on that to me."

Dealing in the past with officious government representatives, Bey had found an effective method of subduing them. He thought of it as his saturation technique. The trick was to flood the nuisance with so many facts, figures, reports and data that he was inundated and never seen again. He went over to his desk and took out a black record pad.

"This has the data entry codes that will allow you to pull all the records on this case. I suggest that you use my office here and feel free to use my communicator to reach Central Files. Nothing will be hidden from you. This machine has a full access code."

The little man stood up, a gleam in his eyes. He rubbed his hands together.

"Excellent. Please arrange it so that I am not disturbed—but I do want to see Mr. Green when he arrives."

Far from being subdued, Ling was clearly delighted at the prospect of a flood of information. Bey escaped with relief and went to give the bad news to Park Green.

"Karl Ling?" Green looked impressed. "Oh, I know him—not personally, but by reputation. He's the U.S.F. leading expert on Loge. He's a fanatic on the subject, really. I saw a holovision program he made



a couple of years ago where he traced the whole history of Loge. He began way back, five hundred years ago—."

* * *

(Cameras move from model and back to Ling, standing.)

"School-capsules give the 1970's as the first date in Loge's history. We can find him much further back than that. All the way back in 1766, when a German astronomer came up with a scheme to define the distances of the planets from the Sun. Johann Titius' work was picked up and made famous a few years later by another German, Johann Bode. The relation is called the Titius-Bode Law."

(Cut to framed lithograph of Bode, then to table of planetary distances.)

"Bode pointed out that there was a curious gap in the distance formula, between Mars and Jupiter. When William Herschel discovered Uranus in 1781—"

(Cut to high resolution color image of Uranus, with image of Herschel as insert on upper left. Cut back to Ling.)

"—he found it fitted Bode's law also. The search for a missing planet began. In 1800 the asteroid Ceres was discovered at the correct distance from the Sun. The first piece of Loge had been found."

(Cut to high resolution image of Ceres. Zoom in on Ceres City. Cut to diagram showing planetary distances, then back to Ling.)

"As more and more asteroids were found, the theory grew that they were fragments of a single

planet. In 1972 the Canadian astronomer Ovenden provided the first real proof. Using the rates of change in the orbits of the planets, he showed they were consistent with the disappearance from the Solar System of a body of planetary mass, roughly sixteen million years ago. He estimated that the missing planet was about ninety times the mass of the Earth. Loge was beginning to take on a definite shape."

(Cut to image of Ovenden, then to artist's impression of the size and appearance of Loge, next to image of the Earth on same scale.)

"The next part of the story came just a few years later, in 1975. Van Flandern in America integrated the orbits of very long period comets backwards in time. They found that many of them had periods of about sixteen million years and had left from a particular part of the Solar System, between the orbits of Mars and Jupiter. Parts of Loge were coming home."

(Cut to diagram showing cometary orbits, intersecting Solar System diagram at point between Mars and Jupiter. Cut back to Ling.)

"We now had the modern view of Loge. A large planet, a gas-giant about ninety Earth masses, disintegrated about sixteen million years ago in a cataclysm beyond our imagining. Most of Loge was blown out of the Solar System forever. A few parts of the planetary core remain as the asteroids, other fragments from the outer crust drop back into the Solar System from time to time as long-period comets."

(Move in to close-up of Ling, face and shoulders only.)

"That looked like the end of the story, until we picked up the first pieces of the long-period cometary fragments in the twenty-first century and found they were high in transuranic elements. The mystery of Loge remains. Why should Loge, alone of all the Solar System, contain transuranic elements? Their half-lives are less than twenty million years. Were they formed in the explosion of Loge? If so, how? To those questions, we still do not have answers."

(Cut to image of Loge, feed in beginning of fade-out music, low volume.)

"One final and tantalizing fact. Sixteen million years is like yesterday on the cosmic scale. When Loge disintegrated there were primates already on the Earth. Did our early ancestors look into the skies one night, and see the fearful sight of Loge's explosion? Will other planets ever suffer a similar fate?"

(Fade out as image of Loge swells, changes color, breaks asunder. Final music crescendoes for ending.)

"—but it puzzles me why Ling should be appointed to this investigation. He writes his own ticket, of course. Maybe he knew one of the dead Grabbers—he certainly knew everything and everyone connected with Loge in any way." Green fell silent, then shook his head. "I suppose I'd better get in there and find out what he wants me to do. I hope I'm not being demoted to messenger boy."

Together Green and Wolf went

back into Bey's office. Karl Ling was oblivious of their entry, deeply engrossed in his review of autopsy records of the three dead crew members of the 'Jason.' Wolf's saturation technique didn't work on Ling. He became aware of them only when Bey Wolf spoke.

"Mr. Ling, we are ready to give you a briefing when you want it. This is Mr. Green, from U.S.F."

Ling looked up briefly, then returned his attention to the medical records. "Good. Answer one basic question for me. The three dead men have clearly been through a form-change process. Where are the bio-feedback machines located that were used for that?"

"We don't have an answer to that, Sir," replied Wolf. "Though of course we recognize its importance."

Ling looked up again. For some reason it seemed to be the response he was hoping for. "No answer, Mr. Wolf? I thought that might be the case. Would you like me to enlighten you?"

Bey felt a minor urge to go over and choke Ling but managed a cool reply. "If you can. Though it is hard for me to imagine that you could have reached a conclusion on such a brief inspection of the records."

"I did not. I knew before I left the Moon." He smiled briefly and stood up. "You see, Mr. Wolf, I have no doubt that you and the other members of Form Control here on Earth are proficient in your work. But this particular situation requires something that by definition you do not possess—the ability to think as a U.S.F. citizen. For

example, if you were a millionaire, where on Earth would you choose to go for your entertainment? Remember, you may choose freely without thought of cost."

"Probably to the Great Barrier Reef, in a gilled form."

"Very good." Karl Ling turned to Park Green. "You are a Belter, Mr. Green, and suddenly a millionaire. Where on all of Earth would you want to go—what is the Belter's dream of a place for all the most exotic delights?"

Green scratched his chin thoughtfully. "Why, I guess it would be Pleasure Dome. That's the place we hear about, though I've never been there."

"Of course you haven't," responded Ling impatiently, "and neither has anyone else who is not extremely rich. But it's the Belter's idea of Paradise—and part of the reason you would want to go there would be to prove how rich you were."

He went over to the large map display on the far wall and called out a South Polar projection.

"Let's take this a little further. Look at the geography. The crew of the 'Jason' landed here at the Australian space port. Within easy ground transport distance of the North Australian Mattin Link. One transfer gets them to New Zealand, a second one puts them to Cap City in Antarctica. Now Pleasure Dome, as I am sure you know, Mr. Wolf, though perhaps Mr. Green does not, lies directly beneath Cap City in the Antarctic ice cap. Total travel time from the space port—an hour or less."

Park Green nodded slowly. "I

guess so. I'm not yet used to the number of Link entry points you have here. I don't see where that gets us, though. We need a place with sophisticated form-change equipment. I didn't see Cap City or Pleasure Dome on any list of labs that Mr. Wolf showed me."

Karl Ling smiled ironically. "I'm sure you didn't. You saw the legal list." He turned to Bey, who had some idea what was coming and felt a growing excitement. "Pleasure Dome offers *all* pleasures, does it not, Mr. Wolf? Even the most exotic. Would it be safe to assume that a number of those pleasures involve the use of form-changes?"

"It certainly would. We know there are illegal form-changes going on there, for some of the more debauched physical tastes. But we've never had trouble with them, and they are very discreet. We keep a kind of informal truce. I don't have to tell you, Mr. Ling, how much power the managers of Pleasure Dome have when it comes to silent influence in high places."

Ling touched the map display control and a new image appeared. "Then this must be our next stop—Cap City and Pleasure Dome. We still have not answered the basic question: how did those three men become three dead monsters? Mr. Green, you should remain here and be available to answer the inquiries from Earth and Moon authorities. Please make travel arrangements now for Mr. Wolf and myself. Don't worry, Mr. Wolf," he added, seeing Bey's questioning look. "I can call on the full financial resources of the U.S.F. in pursuing this enquiry."

"That's not my worry at the moment, Mr. Ling. I was wondering why the Mariana Trench was chosen to dispose of the bodies. Can you explain that also?"

"I have a speculation, certainly. After the crew of the 'Jason' died, I think the proprietors of Pleasure Dome looked at their identifications and realized they were in trouble. They know the U.S.F. looks after its own. The plan was to get the bodies off-Earth. They were taken to Australia through the Mattin Link. When the Pleasure Dome people found that security regulations on space access are very tight, that plan was dropped and they were forced to improvise. One further transfer through the Link System took them to the Marianas. Hasty planning—and an inadequate knowledge of local geography—led to a botching of the disposal job."

Ling looked pleased with his analysis. "It is only a deductive argument, I admit. But I suspect it has a very high probability of being right."

"Now, quickly, have preparations made and let us be on our way."

Green hurried out, but Wolf lingered a moment. Ling looked at him questioningly.

"You have further business, Mr. Wolf? I have a great deal of work still to do on the records and not much time to do it."

Bey nodded. "I want to make one comment. I've spent my life studying form-change, and I believe I understand it as well as anyone. One man is my master in the theory, but when it comes to seeing through exterior changes I match

myself against anyone. I believe that we have met before, Mr. Ling, and under very different circumstances. I do not propose to do anything about it, but I want you to know that I can tell the lion by his paw."

Karl Ling's acid look seemed to soften briefly. Bey Wolf thought there was the trace of a smile on his lips. "I'm sorry, Mr. Wolf, but I really have no idea what you are talking about. Would you please let me get down to this biological work—help me, if you wish. I want to be in Cap City four hours from now."

* * *

After Bey Wolf and Karl Ling had left, Park Green and John Larsen went for a drink and a sharing of dissatisfaction. By the third one Larsen had become more morose and militant.

"Just our luck. Those two go off to sample Pleasure Dome and leave us here to handle the brainless bureaucrats," he complained. "It's always the same, we get all the dog work, they get all the excitement."

He had never met or heard of Ling until that day, but fine points of logic were beneath him.

"I'd like to show those two," he went on. "I'd like to show them what we can do without them. Solve this whole thing while they're gone." He slid a little lower in his seat. "That would show them."

Green and Larsen had been going drink for drink, but with twice the body mass Green was in much better shape. He watched Larsen sink lower yet.

"Come on," he said. "Let's do it." He lifted the limp figure of Larsen easily to a standing position and held him there while he paid the bill. "Just let's get a shot of de-toxer in you and we'll be all set. Let's go and work over the full records and see if we can come up with something new. It would do me a lot of good to beat that smarmy supercilious midget to the answer."

Fifteen minutes later they were both cold sober and deep into the case records.

There was a long period of sifting before John Larsen sat back, looked up at the ceiling for a spell and finally said:

"Question: what is there about the crew of the 'Jason' that made them very unusual? Answer: they had recently been handling large quantities of transuranic elements, probably experiencing high levels of radioactivity. So here is my second question: did the autopsies look for radioactivity in the bodies? My bet is that they didn't. So, final question: is what happened the effects of transuranic elements in their central nervous systems? I doubt if anyone knows what a substantial amount of transuranics could do. It's a long shot, but it's a new line."

Green shrugged. "It's a long shot, but we should check it. Do you know where the bodies are now?"

"In the Form Control center in Manila."

Green stood up. "Come on. We'll need authorization for another autopsy and a pathologist."

* * *

The exit point from the Mattin Link system is in the upper levels of Cap City, almost at the surface itself. Bey Wolf and Karl Ling came out of the Link and looked about them for the elevators that would take them down to Pleasure Dome, four thousand feet below in the polar ice. As they stood there, a soft voice spoke in their ears:

'Come to Pleasure Dome, satisfy your heart's desires.'

Ling looked at Wolf and smiled. "An omni projector. What a waste of a technology. We'd give millions for that system in Tycho Base."

The soft voice continued. 'In Pleasure Dome, you can shed the cares of the world and feel free again. Visit the Caves of Ice and swim in the Pool of Lethe. Win a world in the great Xanadu Casino, or spend a day as part of the Coupling Loom. Be free, be with us in Pleasure Dome.'

Free, at a price, thought Wolf, as the omni advertising went on. Finally, a useful comment came.

'Follow the blue lights to the temple of earthly delights.'

Following the blue lights as directed, they were soon dropping swiftly, deep into the polar cap. The entrance to Pleasure Dome was a great sparkling chamber, lined with perfect mirrors, like the inside of a giant multi-faceted diamond. The effect was shattering. Walls, floor and ceiling were all perfectly reflective. Images of the room marched off to infinity in every direction. Bey looked about him, struggling to orient himself.

"Better get used to it, Mr. Wolf," remarked Ling coolly. "Pleasure Dome is all like this."

"I didn't realize you'd been here before."

"Long ago. These walls are a necessity, not a luxury, you know. When they cut this city beneath the ice cap, twenty years ago, the big problem was the heat. People produce heat, from themselves and their equipment. The ice walls would have melted in no time. These walls—all the walls in Pleasure Dome—are coated with Passivine. It's perfectly reflecting and has a very low coefficient of thermal conductivity. A negligible amount of heat passes through to the ice walls, and a modest refrigeration system takes care of that easily."

Bey looked at Karl Ling ironically. "For one who is from off-Earth, Mr. Ling, you have an amazing knowledge of Earth affairs."

"The long lunar nights give us plenty of time for reading." There was a definite hint of humor in Ling's formal reply. Before Bey could comment further, a third person had joined them.

"Welcome to Pleasure Dome, Sirs." The speaker was a tall woman dressed all in white. Her skin was pale and flawless, her hair a fine white cloud. She looked at them quietly with cool grey eyes. A Snow Queen. Bey wondered how much of it was natural, and how much she owed to form-change.

"I will be your hostess and help you to arrange your pleasures. Do not be afraid to ask, whatever your tastes. There are few wishes that we cannot accommodate. Before we begin, there are a few formalities."

"You want our identifications?" asked Bey.

"Only if you wish to give them, Sirs. We do need proof of adequate means, but that may be cash if you prefer to use it."

"We are together," said Ling. "My credit will serve for both. Do you have a bank connection?"

"Here, Sir." The Snow Queen produced a small silver box, onto which Ling placed his right index finger. In a few seconds, the I.D. was established and the central bank returned a credit rating. As she read the credit, the Snow Queen lost her composure for the first time and became a young woman. Bey suspected that Ling's credit rating was that of the entire U.S.F.

"What is your pleasure, Sirs?" Even her voice seemed changed. It was now uncertain, nervous, almost childish. With that much credit available, Bey realized, there was nothing, literally nothing, that could not be bought at Pleasure Dome. That included the body or soul of their hostess, and she knew it. It was dangerous to be in contact with such financial power. She could never know when one of Ling's whims might include her as a purchased pleasure.

Ling's businesslike manner helped to reassure her. "We want to talk to the man who controls the form-change tanks. The one who handled the three off-worlders recently. Don't worry, you may not know what I'm referring to, but he certainly will."

She hesitated. Ling's request fell far outside the usual list of fancies.

"One moment, Sirs."

She slipped quietly out through a glittering arch. Karl Ling looked at Bey quizzically.

"I thought the direct approach would be best," Ling said. "If necessary, can you threaten these people enough to make them worried—say you'll close down their illegal form-change services if they don't cooperate?"

"I can threaten all right—but I'm not sure what I can really do if the threats don't work. With any luck they won't want to find out either."

The Snow Queen had brought reinforcements. An equally striking blond haired man, again dressed in white.

"Sirs, your credit is enough to purchase any pleasure," he began. "But certain things in Pleasure Dome are not available at any price. The detail of our operations is one. Please state your wishes again, so that we can see if we are able to accommodate them."

"We have no intention of causing trouble here," replied Ling. "But if we wished to do so there is no doubt that we could. This is Behrooz Wolf, the head of Form Control for Earth. I am Karl Ling, special assistant to the U.S.F. Cabinet. All we are looking for is information. Three men died recently during form-change. We believe that they died here. We want to speak to the man in charge of that operation, and we want to see the full records of the monitors that were recording and supervising the form-changes."

The man made no attempt to deny the charge. He was silent for a few moments, then asked:

"If we cooperate, you will take our involvement no further, here or elsewhere?"

"You have our word."

"Then come with me." The blond man smiled. "You should be pleased. You are obtaining a service free of charge. To my knowledge, this has never happened before since Pleasure Dome was first created."

The three men walked through a maze of ice caves, fairy grottoes lit by lights of different colors, and came at last to a door that led to an ordinary office with panelled walls and a functional looking desk.

He motioned to them to sit down.

"I will return in a moment. This, by the way, is the luxury that we aspire to in Pleasure Dome—normal walls and furniture, and privacy. Our lives here rarely permit us either."

He returned a few minutes later with his identical twin. That seemed to answer Bey's question about the use of form-change on Pleasure Dome staff. The ultimate bondage: someone else dictated the shape of their bodies.

Ling wanted the man to be at ease and displayed a new side of his personality—warmth and kindness. Bey noted it and marked up one more data point on a growing list. The examination began. The man was at first ill-at-ease, but soon relaxed and became more talkative.

"All those three wanted was a full-speed reconditioning program. The only thing we did for them here that is in any way illegal was the speed. We used the bio-feedback machines twenty-four hours a day, and provided nutrients intravenously. So it looked like a completely straightforward request and we didn't give them any special monitoring, the way we would if a

customer was to come in and ask for a special change. The full program they'd asked for takes about a hundred and fifty hours, nearly a week of changing if you run it continuously, the way we do."

"You've run this course many times before?" asked Ling.

"Often, especially for off-worlders. Of course, we never ask their origins, but we can make a guess from clothing and speech. Since Capman's form-change work, a straightforward program like this has been completely automatic. The tank has automatic monitors that control air supply and nutrient supply and regulate the pace of the process. The subject has to be conscious at some level, since it is purposive form-change that's involved. But the unit's completely self-contained and the only way we know what's happening inside the tank is through looking at the automatic monitor tell-tales on the outside."

"And how often do you do that?"

"In a simple case like this, once a day. We never have anything to do, but we check anyway. In the case of these three off-worlders, they all began at the same time and they all asked for the same reconditioning program. Needed it, too. They looked done in when they arrived here.

"The evening of the third day, I took my routine look at the tell-tales. All three men were dead. I couldn't believe it. At first I suspected the tell-tales were lying, or there'd been a programming error, or something. Then we opened the tanks. God, it was awful. Like a

nightmare. They had changed, they weren't men anymore. They were monsters, with great glowing eyes and thick skin, like a horror holo. We confirmed that they were dead, then we looked at their I.D.'s and realized they were off-worlders. Then everybody around here really panicked, and we tried to get them off-Earth. When we found we couldn't do that, we tried to put them deep at sea. That apparently failed too."

The man fell silent and there was a long pause.

Ling was too engrossed even to give Bey Wolf a look of triumph. He was bound in a spell of concentration so intense that he looked blind, his eyes unblinking and focused on infinity.

"Did you do any chemical analyses of the bodies?" he asked.

"God, no. We wanted to get them out of here. But there will be records on the tapes that were made by the monitors and tell-tales, and there should be continuous monitoring of some cell chemistry and blood chemistry."

"Right. I want to examine those now. Bring them here or take me to them."

"We'll get them. But they'll be in raw form. Only a form-change expert can read them."

Ling caught Bey Wolf's look. "Bring them in. We'll manage somehow," he said. "It's a skill you never lose once you've mastered it completely."

* * *

John Larsen looked at the spectrograph output, then at Park Green.

"It's not as much as I expected," he said. "But there are traces of Asfanium in all three bodies. There's slight radioactivity because of that, but it's not enough to make a strong physical effect. I wonder, do you think that it could be a *chemical* effect of Asfanium that did it? We don't have a good understanding of that aspect of the transuranics in the island of stability up around element 114."

"That's quite possible," Green replied. "You know, we are still doing a lot of work on Asfanium and Polium and are finding some odd chemical properties, up in Lunar Base. One other thing occurs to me, the crew of the 'Jason' had never encountered form-change before. Do you think that they let things get out of control, maybe, due to their inexperience? Then they ran into something new, like the effect of a trace of Asfanium?"

Larsen slapped the spectrogram output sheet against his thigh. "Park, I bet you're on to something. With inexperienced people in purposive form-change, anything might happen. Now, we can test that. Asfanium concentrates in the thymus gland. If we take an extract from one of these three, we can conduct a controlled test and see if there is a tendency to form-change the way they did."

Park Green frowned. "I didn't realize you had suitable test animals. Isn't it true that humans alone can achieve purposive form-change? After all, that's the basis of the humanity tests."

Larsen laughed confidently. "Exactly right. You want to see the test animal? Here it is." He tapped

himself on the chest. "Now, don't get the wrong idea," he added, as Park Green began a horrified protest. "One of the things we get in Form Control is many years of training in form-control methods. If anything starts to happen, I'll have no trouble stopping it and reversing it. Don't forget, it's a purposive process. Come on, let's get a thymus gland extract made here and then back to the form-change tanks at Headquarters. We'll really have something to show Bey and your boss when they get back."

* * *

The jaunt to Pleasure Dome was becoming a grind. The staff employees looked on in amazement as Wolf and Ling worked their way through the monitor tapes at express speed, reading raw data, swapping comments and analyses as they went. The tapes contained a mixture of body physical parameters, such as subject temperature, pulse rate and skin conductivity, with nutrient rates. Programs in use as they were swapped in and out of the tank control computer, plus chemical readings and brain activity, were recorded in parallel on the same tape. Reading one required many years of experience, plus a full understanding of the processes—mental and physical—of the human body. Ling was tireless, and Bey was determined not to be outdone.

"Who is he?" whispered the Pleasure Dome form-change supervisor to Bey, at one of their brief halts. "I know you are head of Form Control, but where did *he* learn all this?"

Bey looked across at Ling, who was deep in thought and probably would not have noticed an explosion in the room.

"Maybe you should ask him yourself. I've had that conversation already."

Then more tapes arrived and the question was pushed aside.

After thirty-six hours of intense work, the basic analysis was complete. They had an incredible array of facts available to them, but one of them dominated all others. The crew of the 'Jason' had died well before their form-change was complete. They had died because the forms they were becoming were unable to live in and breathe normal air. The final form they would have become remained unknown. The reason why they were changing to those forms, under the control of a reconditioning program that had been used successfully a thousand times before, was equally unknown.

Karl Ling sat motionless, as he had for the previous two hours. Occasionally he would ask Bey a question, or look again at a piece of data. Rather than disturb him Bey decided that he would go into another room to call back to Headquarters and check with John Larsen on the general situation. Ling was voyaging on strange seas of thought, alone, and Bey Wolf had developed a profound respect for Karl Ling.

Park Green answered the communicator instead of Larsen. He looked very uncomfortable.

"Where's John?"

"He's been in a form-change tank since yesterday morning."

To Green's great relief, Bey Wolf

didn't seem at all concerned. Even when he had explained the whole story to Bey, the latter seemed interested but not at all worried.

"John's been around form-change equipment for a long time. He knows how to handle it as well as anyone on Earth. But honestly, Park, I'm sceptical about his theory. Why, injured Belters have been using form-change equipment for years. They call it regeneration equipment. But it's the same thing exactly. It's only form-change to forms that are not your *original* shape that are illegal to off-Earthers."

Park Green looked as though a big weight had been lifted off him.

"Thank God for that. I thought I might have let John talk me into a deal where he was taking a big risk. I don't know enough about all this to argue with him. I'll go off to the tanks, and see how things are coming along there."

Bey smiled at the honesty of the big man's concern for Larsen and signed off. He strolled back to join Ling, who had now come out of his trance and accepted a cup of syncaff, 'compliments of Pleasure Dome.' Having let them in free of charge, the staff of Pleasure Dome seemed to have adopted them. Ling had just politely refused a Snow Queen's offer of an age-old technique to relax him after all his hard work. He seemed mildly annoyed when she made the same offer to Bey.

"I think I have it, Mr. Wolf, and it's fascinating. More than I dreamed. If I'm right, this is a special day in history." He sat back, relishing the moment.

"Well, Park Green and John Larsen think they have it too," said Bey. "I just had video contact with them."

"They do? Without the evidence that we have here?" Ling was openly surprised. "What do they believe it is?"

Bey sketched out Larsen's theory, and summarized the situation back in Headquarters. He mentioned finally that Larsen was putting it to a practical test.

"Larsen injected an extract from one of the dead men, and got into a form-change tank?" Ling's self-possession had failed him, and he had turned white. "He's a dead man. God, why didn't they consult us here?"

He sprang to his feet, hurled the papers to one side and grabbed his jacket.

"Come, Mr. Wolf. We have to get back to Headquarters as fast as we possibly can. If there is a chance now to save John Larsen's life, it depends on our efforts."

He ran out of the room. Bey Wolf, bewildered and alarmed, followed him at top speed. When Karl Ling lost his dignity so completely, it was time to worry indeed.

* * *

In the elevator, on ground transport and through the Mattin Link, Ling explained the basics of his discoveries to Bey Wolf. By the time they reached Headquarters it was hard to say which man was the more frantic. They went at once to the form-change tanks.

Park Green, alerted as they travelled, was waiting for them

there. He looked at Ling in trepidation, expecting an outburst of insult and accusation. It did not come. Ling went at once to the tank containing John Larsen and began to read the tell-tales. After a couple of minutes he grunted with satisfaction.

"So far everything is stable. If he follows the same pattern as the others, we have about twenty-four hours to do something for him. The one thing I daren't do is stop this process in the middle. We'll have to let the process run its course, keep him alive while it happens, and worry afterwards about reversing it. Bring me the tank schematics. I need to know how the circuits that control the nutrients and air supply work for this model."

Park Green went for them and came back in bewilderment. He took Bey Wolf to one side after he had given the schematics to Ling.

"Mr. Wolf, does he know what he's doing? He's a Loge expert, he doesn't know about this stuff, does he? Are we risking John's life by letting him do this?"

Wolf put his hand up on Green's shoulder. "Park, believe me he does know what he's doing. If anyone can help John now, he can. Let's help all we can here. I'll tell you what my view is when this is all over."

Ling interrupted their conversation. His voice had a reassuring authority and certainty. "One of you come over here and make a note of the equipment changes we have to put on this tank. I'll read off settings as I find them on the charts. The other one of you, call BEC. I want their top man on interactive

form-change programs. Ramo Wold if he's still with them, the best one they have if he isn't. Top priority. Tell them it's codeword circuits, if that'll move them faster."

The equipment modification began. At every stage, Ling rechecked the tell-tales. Larsen's condition inside the tank remained stable, but there were definite changes occurring. Pulse rate was down, and there was heavy demand on calcium and sodium in the nutrient supply. Skin properties were changing drastically.

"They would have noticed all this in Pleasure Dome if they'd have looked closely," grunted Ling. "Give them their due, they had no reason in the world to expect anything peculiar. But look at that body mass indicator. It's up to a hundred kilos. What's Larsen's usual weight?"

"Eighty." Bey was absorbed, watching the indicators. He longed to see inside the tank but there was no provision for that in the system.

After many hours of equipment change and work on program modification with the BEC program engineer, Ling finally declared that he had done all he could. The real test would come in a few hours' time. The records of the crew of the 'Jason' had begun to go wild then. It remained to be seen if the equipment changes would keep Larsen's condition stable as the change proceeded further.

As Ling made the final checks on the tell-tales, Bey realized the mental anguish and confusion that Park Green was going through.

"Mr. Ling, have we done all we can here?" Bey asked.

"For the moment. The rest is waiting."

"Then if you will, for my benefit and Mr. Green's, I would appreciate it if you would explain this to us, from the beginning. I got a quick overview on the way here, but Park is still in the dark."

Ling looked at Green as though seeing him for the first time. He finally nodded sympathetically.

"From the beginning, eh? Well, that's a long story and I'll have to tell it the way I imagine it. Whether it is true or not is another matter."

He sat down and put his hands behind his head.

"It begins sixteen million years ago, on the planet Loge. Loge was a giant, about ninety earth masses, and Loge was going to explode. Now for something you may find hard to accept. Loge had living on it a race of intelligent beings. Perhaps too intelligent. Maybe they were the reason that their planet disintegrated. We'll probably never know that.

"The race had nuclear energy, but not spaceflight. How do I know that? Well, I know they had nuclear energy because they made transuranic elements. Any natural source of transuranics would have decayed by natural process in the past several billion years since the creation of the Solar System. The only way we could have a source of transuranics on Loge—and only on Loge—would be if they were being created there, by nuclear transmutation. We can't do that efficiently yet, so there's good reason to believe the Logians had an advanced nuclear technology—more than we have today.

"How do I know they didn't have spaceflight? That's harder. The main reason: they couldn't get off Loge, even though they knew it was going to disintegrate. They must have had some years' warning and time to plan, so I imagine it wasn't a nuclear war. Perhaps they had found a way of making large-scale interior adjustments to the planet, and lost control. Again, we'll never know.

"They looked around them in the Solar System. They were going to die, personally, but was there a way their race might survive? To a Logian, the natural place for the survival of the race would be Jupiter or Saturn. They probably never even thought of Earth, a tiny planet, too hot, oxygen atmosphere, a metal ball crouched too near the Sun. No, Jupiter or Saturn was their hope. That's where they turned those big luminous eyes—adapted for life in a methane-heavy atmosphere.

"Their scientists calculated the force of the explosion and gave a grim report. No life form, even single celled ones, could survive it. Parts of Loge would be thrown in all directions. Some would undoubtedly hit Jupiter and its satellites—and Earth too. Could anything survive that transit?

"If anything could, it would be a virus. There's no 'life-support system' in a virus, it's just a chunk of DNA. To grow and multiply, it needs a host cell. The Logians took a chance, and packed their genetic material as a viral form.

"Maybe it worked. We've never had a ship down to the surface of Jupiter or Saturn, and perhaps there are Logians down there, created by

viral growth of Loge genetic material in host bodies. We do know there are no Logians on the satellites of either planet.

"Some of that viral material was on fragments of Loge that were blown far out and became part of the long-period comets. That didn't matter. A virus lasts indefinitely. Sixteen million years later, some of those fragments fell back into the Solar System and men began mining them—not for their Loge DNA, not at all. For their transuranic elements.

"Humans are very poor hosts for Loge development. The Loge virus could get into the human body easily enough, and even take up residence in the central nervous system. But it couldn't thrive in such unfamiliar surroundings. Wrong atmosphere, wrong chemical balance, wrong shape."

Ling paused and looked at the other two. He had ceased to be the irritating special advisor and become the great scientist, lecturing to an audience of laymen.

"You may find it hard to believe, but I was already convinced of the existence of a Loge civilization before I ever came to Earth for this investigation. The transuranic elements proved it, to my satisfaction. Otherwise I would never have been led down this train of thought so quickly.

"The crew of the 'Jason' picked up Loge DNA from the Logian fragment. Nothing happened. Then they came to Earth and got into the form-change machines; and at last the virus could begin to act. It stimulated their central nervous systems, and the purposive form-

change began to create a form that was optimal—for Logians, not for Earthmen. When that change had proceeded to the point where the changed form could not survive in the atmosphere of Earth, the creatures died. Asphyxiated, in normal air."

Park Green was now looking in horror at the tank containing John Larsen.

"Does that mean that will happen to John, too?"

"It would have. He injected himself with Loge DNA, along with the Asfanium. The work we've been doing this past day has been to modify the life-support system of the tank, so that it follows the needs of the organism inside it. If you go and look at the tell-tales now, you'll find that the nutrients and the atmosphere are ones that would kill a

human."

Park Green hurried over to the tank. He looked quickly at the monitors and came back.

"Body mass, one hundred and sixty kilos. Oxygen down to eight percent. Mr. Ling, will John live?"

"I believe he will. Can we ever return him to the shape of John Larsen? That is a harder question. If we can, I suspect that it will not be for some time."

Karl Ling looked at Bey Wolf and caught a reflection of his own excitement.

"We must look on the positive side," he said. "We've dreamed for centuries about our first meeting with an alien race." He nodded towards the tank. "The first representative will be in that tank, ready to meet with us, a day or two from now." ★



the DOSADI EXPERIMENT
Frank Herbert



Part II of IV

WHAT HAS GONE BEFORE

KEILA JEDRIK, a young Human female, has known only the desperate survival battle on the planet Dosadi where she lives a double life: in one persona a minor bureaucrat supervising food distribution; in the other persona a secret warlord waiting to fulfill the function for which she was bred and trained. Her mandate is to lead rebellion against Dosadi's imprisonment, for this is no ordinary planet linked to all the other sentient federations in the ConSentientcy. Dosadi is locked behind a barrier 'God Wall' which dims its sun and isolates it from the rest of the universe.

Dosadi's two species, the frog-like Gowachin and the Humans, are descended from a population which submitted to memory erasure after volunteering to participate in a massive long-term psychological experiment. The descendants are supposed to believe themselves alone in the universe. But the ancestors who bred for Keila Jedrik knew they were puppets dancing to outside whims and they saw that Dosadi was a hell, its plants and animals poison to both Human and Gowachin unless raised in hydroponic isolation.

The Dosadis know only the city of Chu where the food is relatively pure and the Rim where people are condemned to a teeming scramble for short existence.

While Jedrik sets the stage for rebellion, other forces muster in the ConSentientcy.

The Bureau of Sabotage, a sophisticated ombudsman-like ministry in the ConSentient government, has

discovered that there is such a place as Dosadi and that unidentified Gowachin are behind it. Dosadi's location and the precise nature of the experiment are not known, but BuSab learns that a Calebans is involved.

Calebans, seen as stars in this universe, provide the ConSentientcy with jumpdoors. Through a jumpdoor, you can walk in one step from planet to planet. Calebans, called the "S'Eye People," have been a nagging mystery for many generations. Either through design or semantic confusion, the Calebans have never explained how jumpdoors work. This is a mystery on a larger scale but similar to the ConSentient involvement with Taprisiots, the stubby, log-like beings who provide instant mind-to-mind communications linkages across the parsecs.

BuSab Agent Jorj X. McKie is assigned to solve the Dosadi problem by Bureau Chief Bildoorn, a member of the PanSpechi species who ape Human form but can pass one ego from person to person in a crèche-family.

McKie knows there is time pressure, that the Gowachin may obliterate Dosadi to conceal what they have done.

Summoned to the Gowachin home planet of Tandaloorn, the place of their mythological progenitor, Mrreg, McKie is confronted by Aritch, High Magister of the most important Gowachin Phylum, and by a deadly Wreave female, representative of one of the many other species in the ConSentientcy. The Wreave shows by her myriad cheek pocks that she is linked to countless breeding triads of her species. McKie knows that if he offends her, he risks vendetta with all of that gigantic extended family. The Wreave, Ceylang by name, is being

trained as a Legum, an adept in Gowachin Law. McKie is the only living non-Gowachin who has achieved Legum status.

Aritch places the binding oath upon McKie, who now must represent the High Magister in any Gowachin legal action. In doing this, Aritch puts in McKie's hands the Phylum box containing three sacred objects: a book, a knife and a rock. The book on ageless metal defines origins of Gowachin Law; the rock is for pounding on wood to call a Courtarena into session; the knife is to be used by the winning Legum to slay the loser.

McKie stops the Wreave from attacking him by revealing knowledge of other Gowachin sacred matters. Ceylang, frustrated, is warned by McKie that unless she sheds her Wreave skin she will never be a true Legum.

These facts emerge:

Dosadi's imprisoned millions are increasingly immune to memory erasure and are, in Gowachin eyes, 'monstrous' for reasons Aritch does not explain.

The Dosadis submit to a quasi-religious government under an Elector named Broey, who is a Gowachin of oddly Human habits and mannerisms.

Anything is for sale on Dosadi—secret information, bodies, temporary protection, virtually unlimited services, food, armies. . .

Broey is served by a pair of Human warlords, Gar and Gar's daughter, Tria. This pair has a secret connection (which Jedrik knows) with attempts to start another city on Dosadi, an act proscribed by Broey's Convocation of the Heavenly Veil.

Jedrik's chauffeur, Havvy, tells her that a Jorj X. McKie is being sent in

from the Rim, an infiltrator. Through her superb contacts with the Rim and internal espionage within the city, Jedrik knows McKie comes from off planet. He is the key she needs to open the God Wall!

Unknown to Jedrik, McKie carries the sophisticated tools of his employment, highly dangerous weapons, plus a Taprisiot linkage which, should he be killed, is supposed to provide the next BuSab agent with all information McKie has learned up to the moment of death.

Havvy tries to sell more information to Jedrik. She knows Havvy wasn't born on Dosadi, that he was a flawed instrument, coming to her too late to use against the God Wall. She hates the powers of 'X' who have imprisoned Dosadi, but conceals this. Jedrik places her reliance on a simulation model of each person who opposes her (including Broey), a model she carries in her head and which enables her to anticipate her foes. She also has come to realize that Havvy and the others like him, these non-Dosadis who govern her planet, are dolts. When Havvy tells her McKie comes from beyond the God Wall, it is too much. She already knew this, that McKie was walking into her trap. Havvy seemingly cannot learn the Dosadi lessons of concealment and personal hardness. He will have to die. Such incompetence cannot be permitted to breed.

All persons act from beliefs they are conditioned not to question, from a set of deeply seated prejudices. Therefore, whoever presumes to judge must be asked: 'How are you affronted?' And this judge must begin there to ques-

tion inwardly as well as outwardly.

— 'The Question'
from Ritual of the Courtarena
Guide to Servants of the Box

"One might suspect you of trying to speak under water," McKie accused.

He still sat opposite Aritch in the High Magister's sanctus and this near-insult was only one indicator marking the changed atmosphere between them. The sun had dropped closer to the horizon and its *spiritual ring* no longer outlined Aritch's head. The two of them were being more direct now, if not more candid, having explored individual capacities and found where profitable discourse might be directed.

The High Magister flexed his thigh tendons.

Knowing these people from long and close observation, McKie realized the old Gowachin was in pain from prolonged inactivity. That was an advantage to be exploited. McKie held up his left hand, enumerated on his fingers:

"You say the original volunteers on Dosadi submitted to memory erasure, but many of their descendants are immune to such erasure. The present population knows nothing about our ConSentient Universe."

"As far as the present Dosadi population comprehends, they are the only people on the only inhabited planet in existence."

McKie found this hard to believe. He held up a third finger.

Aritch stared with distaste at the displayed hand. *There were no webs between the alien fingers!*

McKie said: "And you tell me that a DemoPol backed up by certain religious injunctions is the primary tool of government there?"

"An original condition of our experiment," Aritch said.

It was not a comprehensive answer, McKie observed. Original conditions invariably changed. McKie decided to come back to this after the High Magister had submitted to more muscle pain.

"Do the Dosadi know the nature of the Caleban barrier which encloses them?"

"They've tried rocket probes, primitive electromagnetic projections. They understand that those energies they can produce will not penetrate their 'God Wall.' "

"Is that what they call the barrier?"

"That or 'The Heavenly Veil.' To some degree, these labels measure their attitude toward the barrier."

"The DemoPol can serve many governmental forms," McKie said. "What's the basic form of their government?"

Aritch considered this, then:

"The form varies. They've employed some eighty different governmental forms."

Another non-responsive answer. Aritch did not like to face the fact that their experiment had assumed warlord trappings. McKie thought about the DemoPol. In the hands of adepts and with a population responsive to the software probes by which the computer data was assembled, the DemoPol represented

an ultimate tool for manipulation of a populace. The ConSentient outlawed its use as an assault on individual rights and freedoms. The Gowachin had broken this prohibition, yes, but a more interesting datum was surfacing: Dosadi had employed some eighty different governmental forms without rejecting the DemoPol. That implied frequent changes.

"How often have they changed their form of government?"

"You can divide the numbers as easily as I," Aritch said. His tone was petulant.

McKie nodded. One thing had become quite clear.

"Dosadi's masses know about the DemoPol but you won't let them remove it!"

Aritch had not expected this insight. He responded with revealing sharpness which was amplified by his muscle pains.

"How did you learn that?"

"You told me."

"I?"

"Quite plainly. Such frequent change is responsive to an irritant—the DemoPol. They change the forms of government, but leave the irritant. Obviously, they cannot remove the irritant. That was clearly part of your experiment—to raise a population resistant to the DemoPol."

"A resistant population, yes," Aritch said. He shuddered.

"You've fractured ConSentient Law in many places," McKie said.

"Does my Legum presume to judge me?"

"No. But if I speak with a certain bitterness, please recall that I am a Human. I embrace a profound

sympathy for the Gowachin, but I remain Human."

"Ahhhh, yes. We must not forget the long Human association with DemoPols."

"We survive by selecting the best decision makers," McKie said.

"And a DemoPol elevates mediocrity."

"Has that happened on Dosadi?"

"No."

"But you wanted them to try many different governmental forms?"

The High Magister shrugged, remained silent.

"We Humans found that the DemoPol does profound damage to social relationships. It destroys pre-selected portions of a society."

"And what could we hope to learn by *damaging* our Dosadi society?"

"Have we arrived back at the question of expected benefits?"

Aritch stretched his aching muscles.

"You are persistent, McKie. I will say that."

McKie shook his head sadly.

"The DemoPol was always held up to us as the ultimate equalizer, a source of decision-making miracles. It was supposed to produce a growing body of knowledge about what a society really needed. It was thought to produce justice in all cases despite any odds."

Aritch was irritated. He leaned forward, wincing at the pain of his old muscles.

"One might make the same accusations about the *law* as practiced everywhere except on Gowachin worlds!"

McKie suppressed a sharp re-

sponse. Gowachin training had forced him to question assumptions about the uses of law in the Con-Sentiency, about the inherent rightness of any aristocracy, any power bloc whether majority or minority. It was a BuSab axiom that all power blocs tended toward aristocratic forms, that the descendants of decision makers dominated the power niches. BuSab never employed offspring of their agents.

Aritch repeated himself, a thing Gowachin seldom did.

"Law is delusion and fakery, McKie, everywhere except on the Gowachin worlds! You give your law a theological aura. You ignore the ways it injures your societies. Just as with the DemoPol, you hold up your law as the unvarying source of justice. When you . . ."

"BuSab has . . ."

"No! If something's wrong in your societies, what do you do? You create new law. You never think to remove law or disarm the law. You make more law! You create more legal professionals. We Gowachin sneer at you! We always strive to reduce the number of laws, the number of Legums. A Legum's first duty is to avoid litigation. When we create new Legums, we always have specific problems in mind. We anticipate the ways the laws damage our society."

It was the opening McKie wanted.

"Why are you training a Wreave?"

Belatedly, Aritch realized he had been goaded into revealing more than he had wanted.

"You are good, McKie. Very good."



"Why?" McKie persisted. "Why a Wreave?"

"You will learn why in time."

McKie saw that Aritch would not expand on this answer, but there were other matters to consider now. It was clear that the Gowachin had trained him for a specific problem: Dosadi. To train a Wreave as

Legum, they'd have an equally important problem in mind... perhaps the same problem. A basic difference in the approach to law, species differentiated, had surfaced, however, and this could not be ignored. McKie well understood the Gowachin disdain for all legal systems, including their own. They were educated from infancy to distrust any community of professionals, especially legal professionals. A Legum could only tread their religious path when he completely shared that distrust.

Do I share that distrust?

He thought he did. It came naturally to a BuSab agent. But most of the ConSentency still held its professional communities in high esteem, ignoring the nature of the intense competition for new achievements which invariably overcame such communities: *new* achievements, *new* recognition. But the *new* could be illusion in such communities because they always maintained a peer review system nicely balanced with peer pressures for ego rewards.

"Professional always means power," the Gowachin said.

The Gowachin distrusted power in all of its forms. They gave with one hand and took with the other. Legums faced death whenever they used the Law. To make *new* law in the Gowachin Courtarena was to bring about the elegant dissolution of old law with a concomittant application of justice.

Not for the first time, McKie wondered about the unknown problems a High Magister must face. It would have to be a delicate existence indeed. McKie almost

formed a question about this, thought better of it. He shifted instead to the unknowns about Dosadi. *God Wall? Heavenly Veil?*

"Does Dosadi often accept a religious oligarchy?"

"As an outward form, yes. They currently are presided over by a supreme Elector, a Gowachin by the name of Broey."

"Have Humans ever held power equal to Broey's?"

"Frequently."

It was one of the most responsive exchanges that McKie had with Aritch. Although he knew he was following the High Magister's purpose, McKie decided to explore this.

"Tell me about Dosadi's *social* forms."

"They are the forms of a military organization under constant attack or threat of attack. They-form certain cabals, certain power enclaves whose influences shift."

"Is there much violence?"

"It is a world of constant violence."

McKie absorbed this. Warlords. Military society. He knew he had just lifted a corner of the real issue which had brought the Gowachin to the point of obliterating Dosadi. It was an area to be approached with extreme caution. McKie chose a flanking approach.

"Aside from the military forms, what are the dominant occupations? How do they perceive guilt and innocence? What are their forms of punishment, of absolution. How do they..."

"You do not confuse me, McKie. Consider, Legum: there are better ways to answer such questions."

Brought up short by the Magister's chiding tone, McKie fell into silence. He glanced out the oval window, realizing he'd been thrown onto the defensive with exquisite ease. McKie felt the nerves tingling along his spine. Danger! Tandaloor's golden sun had moved perceptibly closer to the horizon. That horizon was a blue-green line made hazy by kilometer after kilometer of hair trees whose slender female fronds waved and hunted in the air. Presently, McKie turned back to Aritch.

Better ways to answer such questions.

It was obvious where the High Magister's thoughts trended. The experimenters would, of course, have ways of watching their experiment. They could also influence their experiment, but it was obvious there were limits to this influence. A population resistant to outside influences? The implied complications of this Dosadi problem daunted McKie. Oh, the circular dance the Gowachin always performed!

Better ways.

Aritch cleared his ventricle passages with a harsh exhalation, then:

"Anticipating the possibility that others would censure us, we gave our test subjects the Primary."

Devils incarnate! The Gowachin set such store on their damned Primary! Of course all people were created unequal and had to find their own level!

McKie knew he had no choice but to plunge into the maelstrom.

"Did you also anticipate that you'd be charged with violating sentient rights on a massive scale?"

Aritch shocked him by a brief puffing of jowls, the Gowachin shrug.

McKie allowed himself a warning smile.

"I remind the High Magister that *he* raised the issue of the Primary."

"Truth is truth."

McKie shook his head, sharply, not caring what this revealed. The High Magister couldn't possibly have that low an estimation of his reasoning abilities. *Truth indeed!*

"I'll give you truth: The ConSentiency has laws on this subject to which the Gowachin are signatories!"

Even as the words fell from his lips, McKie realized this was precisely where Aritch had wanted him to go. *They've learned something from Dosadi! Something crucial!*

Aritch massaged the painful muscles of his thighs, said: "I remind you, Legum, that we peopled Dosadi with volunteers."

"Their descendants volunteered for nothing!"

"Ancestors always volunteer their descendants—for better or for worse. Sentient rights? Informed consent? The ConSentiency has been so busy building law upon law, creating its great illusion of rights, that you've almost lost sight of the Primary's guiding principal: to develop our capacities. People who are never challenged never develop survival strengths!"

Despite the perils, McKie knew he had to press for the answer to his original question: *benefits*.

"What've you learned from your monster?"

"You'll soon have a complete answer to that question."

Again, the implication that he could actually watch Dosadi. But first it'd be well to disabuse Aritch of any suspicion that McKie was unaware of the root implications. The issue had to be met head on.

"You're not going to implicate me."

"Implicate you?" There was no mistaking Aritch's surprise.

"No matter how you use what you've learned from Dosadi, you'll be suspected of evil intent. Whatever anyone learns from . . ."

"Oh, that. New data gives one power."

"And you do not confuse me, Aritch. In the history of every species there are many examples of places where new data has been gravely abused."

Aritch accepted this without question. They both knew the background. The Gowachin distrusted power in all of its forms, yet they used power with consummate skill. The trend of McKie's thoughts lay heavily in this room now. To destroy Dosadi would be to hide whatever the Gowachin had learned there. McKie, a non-Gowachin, therefore, would learn those things, would share the mantle of suspicion should it be cast. The historical abuses of new data occurred between the time that a few people learned the important thing and the time when that important thing became general knowledge. To the Gowachin and to BuSab it was the 'Data Gap,' a source of constant danger.

"We would not try to hide *what* we've learned," Aritch said, "only how we learned it."

"And it's just an academic ques-

tion whether you destroy an entire planet and every person on it!"

"Ahh, yes: academic. What you don't know, McKie, is that one of our test subjects on Dosadi has initiated, all on her own, a course of events which will destroy Dosadi very quickly whether we act or not. You'll learn all about this very soon when, like the good Legum we know you to be, you go there to experience this monster with your own flesh."

* * *

In the name of all that we together hold holy I promise three things to the sacred congregation of people who are subject to my rule. In the first place, that the holy religion which we mutually espouse shall always preserve their freedom under my auspices; secondly, that I will temper every form of rapacity and inequity which may inflict itself upon us all; and thirdly, that I will command swift mercy in all judgements, that to me and to you the gracious Lord may extend His Recognition.

— The Oath of Power,
Dosadi Sacred Congregation
papers

Broey arose from prayer, groped behind him for the chair and sank into it. Enclosed darkness surrounded him. The room was a shielded bubble attached to the bottom of his Graluz. Around the room's thick walls was the warm water which protected his females

and their eggs. Access to the bubble was through a floor hatch and a twisting flooded passage from the Graluz. Pressure in the bubble excluded the water, but the space around Broey smelled reassuringly of the Graluz. This helped reinforce the mood he now required.

Presently, the God spoke to him. Elation filled Broey. God spoke to him, only to him. Words hissed within his head. Scenes impinged themselves upon his vision centers.

Yes! Yes! I keep the DemoPol!

God was reassured and reflected that reassurance.

Today, God showed him a ritual Broey had never seen before. The ritual was only for Gowachin. The ritual was called Laupuk. Broey saw the ritual in all of its gory details, felt the *rightness* of it as though his very cells accepted it.

Responsibility, expiation—these were the lessons of Laupuk. God approved when Broey expressed understanding.

They communicated by words which Broey expressed silently in his thoughts, but there were other thoughts which God could not perceive. Just as God no doubt held thoughts which were not communicated to Broey. God used people, people used God. Divine intervention with cynical overtones. Broey had learned the Elector's role through a long and painful apprenticeship.

I am your servant, God.

As God admonished, Broey kept the secret of this private communion. It suited his purpose to obey, as it obviously suited God's purpose. There were times, though, when Broey wanted to shout it:

"You fools! I speak with the voice of God!"

Other Electors had made that mistake. They'd soon fallen from the seat of power. Broey, drawing on several lifetimes of assembled experiences, knew he must keep this power if he ever were to escape from Dosadi.

Anyway, the fools did his bidding (and therefore God's) without divine admonition. All was well. One presented a selection of thoughts to God. . .being careful always where and when one reviewed private thoughts. There were times when Broey felt God within him when there'd been no prayer, no preparations here in the blackness of this bubble room. God might peer out of Broey's eyes at any time—softly, quietly—examining His world and its works through mortal senses.

"I guard My servant well."

The warmth of reassurance which flowed through Broey then was like the warmth of the Graluz when he'd still been a tad clinging to his mother's back. It was a warmth and sense of safety which Broey tempered with a deep awareness of that other Graluz time: a giant grey-green adult male Gowachin ravening through the water, devouring those tads not swift enough, alert enough to escape.

I was one of the swift.

Memory of that plunging, frantic flight in the Graluz had taught Broey how to behave with God.

In his bubble room's darkness, Broey shuddered. Yes, the ways of God were cruel. Thus armed, a servant of God could be equally cruel, could surmount the fact that he

knew what it was to be both Human and Gowachin. He need only be the pure servant of God. This thought he shared.

Beware, McKie. God has told me whence you come. I know your intentions. Hold fast to the narrow path, McKie. You risk my displeasure.

Behavioral engineering in all of its manifestations always degenerates into merciless manipulation. It reduces all (manipulators and manipulated alike) to a deadly 'mass effect.' The central assumption, that manipulation of individual personalities can achieve uniform behavioral responses, has been exposed as a lie by many species but never with more telling effect than by the Gowachin on Dosadi. Here, they showed us the 'Walden Fallacy' in ultimate foolishness, explaining: "Given any species which reproduces by genetic mingling such that every individual is a unique specimen, all attempts to impose a decision matrix based on assumed uniform behavior will prove lethal."

— The Dosadi Papers,
BuSab reference

McKie walked through the jumpdoor and, as Aritch's aides had said, found himself on sand at just past Dosadi's midmorning. He looked up, seeking his first real-time view of the God Wall, wanting to share the Dosadi feeling of that

enclosure. All he saw was a thin haze, faintly silver, disappointing. The sun circle was more defined than he'd expected and he knew from the holographic reproductions he'd seen that a few of the third magnitude stars would be filtered out at night. What else he'd expected, McKie could not say, but somehow this milky veil was not it. Too thin, perhaps. It appeared insubstantial, too weak for the power it represented.

The visible sun disk reminded him of another urgent necessity but he postponed that necessity while he examined his surroundings.

A tall white rock? Yes, there it was on his left.

They'd warned him to wait beside that rock, that he'd be relatively safe there. Under no circumstances was he to wander from this contact point.

"We can tell you about the dangers of Dosadi but words are not enough. Besides, the place is always developing new threats."

Things he'd learned in the briefing sessions over the past weeks reinforced the warning. The rock, twice as tall as a Human, stood only a few paces away, massive and forbidding. He went over and leaned against it. Sand grated beneath his feet. He smelled unfamiliar perfumes and acridities. The sun-warmed surface of the rock gave its energy to his flesh through the thin green coveralls they'd insisted he wear.

McKie longed for his armored clothing and its devices to amplify muscles, but such things were not permitted. Only a reduced version of his toolkit had been allowed and

that reluctantly, a compromise. McKie had explained that the contents would be destroyed if anyone other than himself tried to pry into the kit's secrets. Still, they'd warned him never to open the kit in the presence of a Dosadi native.

"The most dangerous thing you can do is to underestimate any of the Dosadi."

McKie, staring around him, saw no Dosadi.

Far off across a dusty landscape dotted with yellow bushes and brown rocks, he identified the hazy spires of Chu rising out of its river canyon. Heat waves dizzied the air above the low scrub, giving the city a magical appearance.

McKie found it difficult to think about Chu in the context of what he'd learned during the crash course the Gowachin had given him. Those magical fluting spires reached heavenward from a muck where "you can buy anything . . . anything at all."

Aritch's aides had sewn a large sum in Dosadi currency into the seams of his clothing but, at the same time, had forced him to digest hair-raising admonitions about "any show of unprotected wealth."

The jumpdoor attendants had recapitulated many of the most urgent warnings, adding:

"You may have a wait of several hours. We're not sure. Just stay close to that rock where you'll be relatively safe. We've made protective arrangements which should work. Don't eat or drink anything until you get into the city. You'll be faintly sick with the diet change for a few days, but your body should adjust."

"Should adjust?"

"Give it time."

He'd asked about specific dangers to which he should be most alert.

"Stay clear of any Dosadi natives except your contacts. Above all, don't even appear to threaten anyone."

"What if I get drowsy and take a nap?"

They'd considered this, then:

"You know, that might be the safest thing to do. Anyone who'd dare to nap out there would have to be damned well protected. There'd be some risk, of course, but there always is on Dosadi. But they'd be awfully leery of anyone casual enough to nap out there."

Again, McKie glanced around.

Sharp whistlings and a low rasp like sand across wood came from behind the tall rock. Quietly, McKie worked his way around to where he could see the sources of these noises. The whistling was a yellow lizard almost the color of the bushes beneath which it crouched. The rasp came from a direction which commanded the lizard's attention. Its source appeared to be a small hole beneath another bush. McKie thought he detected in the lizard only a faint curiosity about himself. Something about that hole and the noise issuing from it demanded a great deal of concentrated attention.

Something stirred in the hole's blackness.

The lizard crouched, continued to whistle.

An ebony creature about the size of McKie's fist emerged from the hole, darted forward, saw the lizard. Wings shot from the new-

comer's sides and it leaped upward but it was too late. With a swiftness which astonished McKie, the lizard shot forward, balled itself around its prey. A slit opened in the lizard's stomach, surrounded the ebony creature. With a final rasping, the black thing vanished into the lizard.

All this time, the lizard continued to whistle. Still whistling, it crawled into the hole from which its prey had come.

"Things are seldom what they seem to be on Dosadi," McKie's teachers had said.

He wondered now what he had just seen.

The whistling had stopped.

The lizard and its prey reminded McKie that, as he'd been warned, there had not been time to prepare him for every new detail on Dosadi. He crouched now and, once more, studied his immediate surroundings.

Tiny jumping things like insects inhabited the narrow line of shade at the base of the white rock. Green (blossoms?) opened and closed on the stems of the yellow bushes. The ground all around appeared to be a basic sand and clay but when he peered at it closely he saw veins and blue and red discoloration. He turned his back on the distant city, saw far away mountains: a purple graph line against silver sky. Rain had cut an arroyo in that direction. He saw touches of darker green reaching from the depths. The air tasted bitter.

Once again, McKie made a sweeping study of his surroundings, seeking any sign of threat. Nothing he could identify. He palmed an instrument from his toolkit, stood casually and stretched while he

turned toward Chu. When he stole a glance at the instrument, it revealed a sonabarrier at the city. Absently scratching himself to conceal the motion, he returned the instrument to his kit. Birds floated in the silver sky above the sonabarrier.

Why a sonabarrier? he wondered.

It would stop wild creatures, but not people. His teachers had said the sonabarrier excluded pests, vermin. The explanation did not satisfy McKie.

Things are seldom what they seem.

Despite the God Wall, that sun was hot. McKie sought the shady side of the rock. Seated there, he glanced at the small white disk affixed to the green lapel at his left breast: OP40331-D404. It was standard Galach script, the lingua franca of the ConSentiency.

"They speak only Galach on Dosadi. They may detect an accent in your speech, but they won't question it."

Aritch's people had explained that this badge identified McKie as an open-contract worker, one with slightly above average skills in a particular field, but still part of the Labor Pool and subject to assignment outside his skill.

"This puts you three hierarchical steps from the Rim," they'd said.

It'd been his own choice. The bottom of the social system always had its own communications channels flowing with information based on accurate data, instinct, dream stuff and what was fed from the top with deliberate intent. Whatever happened here on Dosadi, its nature would be revealed in the uncon-

scious processes of the Labor Pool. In the Labor Pool, he could tap that revealing flow.

"I'll be a weaver," he'd said, explaining that it was a hobby he'd enjoyed for many years.

The choice had amused his teachers. McKie had been unable to penetrate the reason for their amusement.

"It is of no importance right now. One choice is as good as another."

They'd insisted he concentrate on what he'd been doing at the time, learning the signal mannerisms of Dosadi. Indeed, it'd been a hectic period on Tandaloor after Aritch's insistence (with the most reasonable of arguments) that the best way for his Legum to proceed was to go personally to Dosadi. In retrospect, the arguments remained persuasive, but McKie had been surprised. For some reason which he could not now identify, he had expected a less involved *overview* of the experiment, watching through instruments and the spying abilities of the Calaban who guarded the place.

McKie was still not certain how they expected him to pull this hot *palip* from the cooker but it was clear they expected it. Aritch had been mysteriously explicit:

"You are Dosadi's best chance for survival and our own best chance for . . . understanding."

They expected their Legum to save Dosadi while exonerating the Gowachin. It was a Legum's task to win for his client, but these had to be the strangest circumstances with the client retaining the absolute power of destruction over the threatened planet.

On Tandaloor, McKie had been allowed just time for short naps. Even then, his sleep had been restless, part of his mind infernally aware of where he lay: the bedog strange and not quite attuned to his needs, the odd noises beyond the walls—water gurgling somewhere, always water.

When he'd trained there as a Legum that had been one of his first adjustments: the uncertain rhythms of disturbed water. Gowachin never strayed far from water. The Graluz—that central pool and sanctuary for females, the place where Gowachin raised those tadpoles which survived the ravenous *weeding* by the male parent—The Graluz always remained a central fixation for the Gowachin. As the saying put it:

"If you do not understand the Graluz you do not understand the Gowachin."

As such sayings went, it was accurate only up to a point.

But there was always the water, contained water, the nervous slapping of wavelets against walls. The sound conveyed no fixed rhythms, but it was a profound clue to the Gowachin: contained, yet always different.

For all short distances, swimming tubes connected Gowachin facilities. They traversed long distances by jumpdoor or in hissing jetcars which moved on magnetic cushions. The comings and goings of such cars had disturbed McKie's sleep during the period of the crash course on Dosadi. Sometimes, desperately tired, his body demanding rest, he would find himself awakened by voices. And the subtle interference

of the other sounds—the cars, the waves—made eavesdropping difficult. Awake in the night, McKie would strain for meaning. He felt like a spy listening for vital clues, seeking every nuance in the casual conversations of people beyond his walls. Frustrated, always frustrated, he had retreated into sleep. And when, as happened occasionally, all sound ceased, this brought him to full alert, heart pounding, wondering what had gone wrong.

And the odors! What memories they brought back to him. Graluz musk, the bitter pressing of exotic seeds, permeated every breath. Fern tree pollen intruded with its undertones of citrus. And the caraeli, tiny frog-like pets, invaded your sleep at every dawning with their exquisite belling arias.

During those earlier days of training on Tandaloor, McKie had felt more than a little lost, hemmed in by threatening strangers, constantly aware of the important matters which rode on his success. But things were different after the interview with Aritch. McKie was now a trained, tested and proven Legum, not to mention a renowned agent of BuSab. Yet there were times when the mood of those earlier days intruded. Such intrusions annoyed him with their implication that he was being maneuvered into peril against his will, that the Gowachin secretly laughed as they prepared him for some ultimate humiliation. They were not above such a jest. Common assessment of Gowachin by non-Gowachin said the Frog God's people were so ultimately civilized they had come full circle into a form of primitive savagery.

Look at the way Gowachin males slaughtered their own newborn tads!

Once, during one of the rare naps Aritch's people permitted him, McKie had awakened to sit up and try to shake off that depressing mood of doom. He told himself true things: that the Gowachin flattered him now, deferred to him, treated him with that quasi-religious respect which they paid to all Legums. But there was no evading another truth: the Gowachin had groomed him for their Dosadi problem over a long period of time and they were being less than candid with him about that long process and its intentions.

There were always unfathomed mysteries when dealing with Gowachin.

When he'd tried returning to sleep that time, it was to encounter disturbing dreams of massed sentient flesh (both pink and green), all naked and quite defenseless before the onslaught of gigantic Gowachin males.

The dream's message was clear. The Gowachin might very well destroy Dosadi in the way (and for similar reasons) that they winnowed their own tads—searching, endlessly searching for the strongest and most resilient survivors.

The problem they'd dumped in his lap daunted McKie. If the slightest inkling of Dosadi leaked into common awareness without a concurrent justification, the Gowachin Federation would be hounded unmercifully. The Gowachin had clear and sufficient reason to destroy the evidence . . . or to let the evidence destroy itself.

Justification.



Where was that to be found? In the elusive benefits which had moved the Gowachin to mount this experiment?

Even if he found that justification, Dosadi would be an upheaval in the ConSentiency. It'd be the subject of high drama. More than twenty generations of Humans and Gowachin surfacing without warning! Their lonely history would titillate countless beings. The limits of language would be explored to wring the last drop of emotive essence from this revelation.

No matter how explained, Gowachin motives would come in for uncounted explorations and suspicions.

Why did they *really* do it? What happened to their original volunteers?

People would look backward into their own ancestry—Human and Gowachin alike. "Is that what happened to Uncle Elfred?" Gowachin phylum records would be explored. "Yes! Here are two—gone without record!"

Aritch's people admitted that "a very small minority" had mounted this project and kept the lid on it. Were they completely sane, this Gowachin cabal?

McKie's short naps were always disturbed by an obsequious Gowachin bowing over his bedog, begging him to return at once to the briefing sessions which prepared him for survival on Dosadi.

Those briefing sessions! The implied prejudices hidden in every one raised more questions than were answered. McKie tried to retain a reasoned attitude, but irritants constantly assailed him.

Why had the Gowachin of Dosadi taken on Human emotional characteristics? Why were Dosadi's Humans aping Gowachin social compacts? Were the Dosadi truly aware of why they changed governmental forms so often?

The bland answer to his frequent questions enraged McKie.

"All will be made clear when you experience Dosadi for yourself."

He'd finally fallen into a counter-irritant patter:

"You don't really know the answer, do you? You're hoping I'll find out for you!"

Some of the data recitals bored McKie. While listening to a Gowachin explain what was known about Rim relationships, he would find himself distracted by people passing in the multi-sentient access way outside the briefing area.

Once, Ceylang entered and sat on the side of the room watching him with a hungry silence which rubbed McKie's sensibilities to angry rawness. He'd longed for the blue metal box then, but once the solemn investment had pulled the mantel of Legumic protection around him, the box had been removed to its sacred niche. He'd not see it again unless this issue entered the Courtarena. Ceylang remained an unanswered question among many. Why did that dangerous Wreave female haunt this room without contributing one thing? He suspected they allowed Ceylang to watch him through remote spy devices. Why did she choose that once to come in person? To let him know he was being observed? It had something to do with whatever had prompted the

Gowachin to train a Wreave. They had some future problem which only a Wreave could solve. They were grooming this Wreave as they'd groomed him. Why? What Wreave capabilities attracted the Gowachin? How did this Wreave female differ from other Wreaves? Where were her loyalties? What was the 'Wreave Bet'?

This led McKie into another avenue never sufficiently explored: What Human capabilities had led the Gowachin to him? Dogged persistence? A background in Human law? The essential individualism of the Human?

There were no sure answers to these questions, no more than there were about the Wreave. Her presence continued to fascinate him, however. McKie knew many things about Wreave society not in common awareness outside the Wreave worlds. They were, after all, integral and valued partners in BuSab. In shared tasks, a camaraderie developed which often prompted intimate exchanges of information. Beyond the fact that Wreaves required a breeding triad for reproduction, he knew that Wreaves had never discovered a way to determine in advance which of the Triad would be capable of nursing the offspring. This formed an essential building stone in Wreave society. Periodically, this person from the triad would be exchanged for a like person from another triad. This insured their form of genetic dispersion and, of equal importance, built countless linkages throughout their civilization. With each such linkage went requirements for unquestioning support in times of trouble.

A Wreave in the Bureau had tried to explain this:

"Take, for example, the situation where a Wreave is murdered or, even worse, deprived of essential vanity. The guilty party would be answerable *personally* to millions upon millions of us. Wherever the triad exchange has linked us, we are required to respond intimately to the insult. The closest thing you have to this, as I understand it, is familial responsibility. We have this familial responsibility for vendetta where such affronts occur. You have no idea how difficult it was to release those of us in BuSab from this . . . this bondage, this network of responsibility."

The Gowachin would know this about the Wreaves, McKie thought. Had this characteristic attracted the Gowachin or had they chosen in spite of it, making their decision because of some other Wreave aspect? Would a Wreave Legum continue to share that network of familial responsibility? How could that be? Wreave society could only offend a basic sensibility of the Gowachin. The Frog God's people were even more . . . more *exclusive* and individual than Humans. To the Gowachin, family remained a private thing, walled off from strangers in an isolation which was abandoned only when you entered your chosen phylum.

As he waited beside the white rock on Dosadi, McKie reflected on these matters, biding his time, listening. The alien heat, the smells and unfamiliar noises, disturbed him. He'd been told to listen for the sound of an internal combustion engine. Internal combustion! But the

Dosadi used such devices outside the city because they were more powerful (although much larger) than the beamed impulse drivers which they used within Chu's walls.

"The fuel is alcohol. Most of the raw materials come from the Rim. It doesn't matter how much poison there is in such fuel. They ferment bushes, trees, ferns . . . anything the Rim supplies."

A sleepy quiet surrounded McKie now. For a long time he'd been girding himself to risk the thing he knew he would have to do once he was alone on Dosadi. He might never again be this alone here . . . probably not once he was into Chu's warrens. He knew the futility of trying to contact his Taprisiot monitor. Aritch, telling him the Gowachin knew that BuSab had invested in 'Taprisiot insurance,' had said:

"Not even a Taprisiot call can penetrate the God Wall."

In the event of Dosadi's destruction, the Caleban contract ended. McKie's Taprisiot might even have an instant to complete the death record of McKie's memories. Might. That was academic to McKie in his present circumstances. The Calebans owed him a debt. McKie had removed the Whipping Star threat which had been as deadly to Calebans as to any other species which had ever used jumpdoors. Users of jumpdoors and the Caleban who controlled those jumpdoors had been doomed. The Caleban he knew by the pseudonym 'Fannie Mae' had expressed the debt to McKie in her own peculiar way:

"The owing of me to thee connects to no ending."

Aritch could have alerted his Dosadi guardian against any attempt by McKie to contact another Caleban. McKie doubted this. Aritch had specified a ban against Taprisiot calls. But all Calebans shared an awareness at some level. If Aritch and company had been lulled into a mistaken assumption about the security of their barrier around Dosadi. . .

Carefully, McKie cleared his mind of any thoughts about Taprisiots. This wasn't easy. It required a Sufi concentration upon a particular *void*. There could be no accidental thrust of his mind at the Taprisiot waiting in the safety of Central Central with its endless patience. Everything must be blanked from awareness except a clear projection toward Fannie Mae.

McKie visualized her. She was visible in this universe as the star Thyone. He recalled their long hours of mental give and take. He projected the warmth of emotional attachment. As he had saved Fannie Mae, she had protected and saved him. The emotion was real.

Presently, he closed his eyes, amplified that internal image which now suffused his mind. He felt his muscles relax. The warm rock against his back, the sand beneath him, faded from awareness. Only the glowing presence of a Caleban remained in his mind.

"Who calls?"

The words touched his auditory centers, but not his ears.

"It's McKie, friend of Fannie Mae. Are you the Caleban of the God Wall?"

"I am the God Wall. Have you come to worship?"

McKie felt his thoughts stumble. Worship? The projection from this Caleban was echoing and portentous, not at all like the probing curiosity he always sensed in Fannie Mae. He fought to regain that first clear image. The inner glow of a Caleban contact returned. He supposed there might be something worshipful in this experience. You were never absolutely certain of a Caleban's meaning.

"It's McKie, friend of Fannie Mae," he repeated.

The glow within McKie dimmed, then: "But you occupy a point upon Dosadi's wave."

That was a familiar kind of communication, one to which McKie could apply previous experience in the hope of a small understanding, an approximation.

"Does the God Wall permit me to contact Fannie Mae?"

Words echoed in his head:

"One Caleban, all Caleban."

"I wish to converse with Fannie Mae."

"You are not satisfied with your present body?"

McKie felt his body then, the trembling flesh, the zombie-like trance state which went with Caleban or Taprisiot contact. The question had no meaning to him, but the body contact was real and it threatened to break off communication. Slowly, McKie fought back to that tenuous mind-presence.

"I am Jorj X. McKie. Calebans are in my debt."

"All Calebans know this debt."

"Then honor your debt."

He waited, trying not to grow tense.

The glow within his head was re-

placed by a new presence. It insinuated itself into McKie's awareness with penetrating familiarity—not full mental contact but rather a playing upon those regions of his brain where sight and sound were interpreted. McKie recognized this new presence.

"Fannie Mae!"

"What does McKie require?"

For a Caleban, it was quite a direct communication. McKie, noting this, responded more directly:

"I require your help."

"Explain."

"I may be killed here. . . ah, have an end to my node here on Dosadi."

"Dosadi's wave," she corrected him.

"Yes. And if that happens, if I die here, I have friends on Central Central. . . on Central Central's wave. . . friends there who must learn everything that's in my mind when I die."

"Only Taprisiot can do this. Dosadi contract forbids Taprisiots."

"But if Dosadi is destroyed. . ."

"Contract promise passes no ending, McKie."

"You cannot help me?"

"You wish advice from Fannie Mae?"

"Yes."

"Fannie Mae able to maintain contact with McKie while he occupies Dosadi's wave."

Constant trance? McKie was shocked.

She caught this.

"No trance. McKie's nexus known to Fannie Mae."

"I think not. I can't have any distractions here."

"Bad choice."

She was petulant.

"Could you provide me with a personal jumpdoor to. . ."

"Not with node ending close to ending for Dosadi wave."

"Fannie Mae, do you know what the Gowachin are doing here on Dosadi? This is. . ."

"Caleban contract, McKie."

Her displeasure was clear. You didn't question the honor of a Caleban's word-writ. The Dosadi contract undoubtedly contained specific prohibitions against any revelations of what went on here. McKie was dismayed. He was tempted to leave Dosadi immediately.

Fannie Mae got his message, too.

"McKie can leave now. Soon, McKie cannot leave in his own body/node."

"Body/node?"

"Answers not permitted."

Not permitted!

"I thought you were my friend, Fannie Mae!"

Warmth suffused him.

"Fannie Mae possesses friendship for McKie."

"Then why won't you help me?"

"You wish to leave Dosadi's wave in this instant?"

"No!"

"Then Fannie Mae cannot help."

Angry, McKie began to break contact.

Fannie Mae projected sensations of frustration and hurt. "Why does McKie refuse advice? Fannie Mae wishes. . ."

"I must go. You know I'm in a trance while we're in contact. That's dangerous here. We'll speak another time. I appreciate your wish to help and your new clarity but. . ."

"Not clarity! Very small hole in understanding but Human keeps no more dimension!"

Obvious unhappiness accompanied this response but she broke the contact. McKie felt himself awakening, his fingers and toes trembling with cold. Caleban contact had slowed his metabolism to a dangerous low. He opened his eyes.

A strange Gowachin clad in the yellow of an armored vehicle driver stood over him. A tracked machine rumbled and puffed in the background. Blue smoke enveloped it. McKie stared upward in shock.

The Gowachin nodded companionably.

"You are ill?"

We of the Sabotage Bureau remain legalists of a special category. We know that too much law injures a society; it is the same with too little law. One seeks a balance. We are like the balancing force among the Gowachin: without hope of achieving heaven in the society of mortals, we seek the unattainable. Each agent knows his own conscience and why he serves such a master. That is the key to us. We serve a mortal conscience for immortal reasons. We do it without hope of praise or the sureness of success.

— The early writings of Bildoon, PanSpechi Chief of BuSab

They moved out onto the streets as soon as the afternoon shadows

gloomed the depths of the city, Tria and six carefully chosen companions, all of them young Human males. She'd musked herself to key them up and she led them down dim byways where Broey's spies had been eliminated. All of her troop was armored and armed in the fashion of an ordinary sortie team.

There'd been rioting nearby an hour earlier, not sufficiently disruptive to attract large military attention, but a small Gowachin salient had been eliminated from a Human enclave. A sortie team was the kind of thing this Warren could expect after such a specific species adjustment. Tria and her six companions were not likely to suffer attack. None of the rioters wanted a large scale mopping up in the area.

A kind of hushed, suspenseful waiting pervaded the streets.

They crossed a wet intersection, green and red ichor in the gutters. The smell of the dampness told her that a graluz had been broached and its waters freed to wash through the streets.

That would attract retaliation. Some Human children were certain to be killed in the days ahead. An old pattern.

The troop crossed the riot area presently, noting the places where bodies had fallen, estimating casualties. All bodies had been removed. Not a scrap remained for the birds.

They emerged from the Warrens soon afterward, passing through a Gowachin-guarded gate, Broey's people. A few blocks along they went through another gate, Human guards, all in Gar's pay. Broey would learn of her presence here soon, Tria knew, but she'd said she

was going into the Warrens. She came presently to an alleyway across from a Second Rank building. The windowless grey of the building's lower floors presented a blank face broken only by the lattice armor of the entrance gate. Behind the gate lay a dimly lighted passage. Its deceptively plain walls concealed spy devices and automatic weapons.

Holding back her companions with a hand motion, Tria waited in the dark while she studied the building entrance across from her. The gate was on a simple latch. There was one doorguard in an alcove on the left near the door which was dimly visible beyond the armorwork of the gate. A building defense force stood ready to come at the doorguard's summons or at the summons of those who watched through the spy devices.

Tria's informants said this was Jedrik's bolt hole. Not in the Warrens at all. Clever, clever. But Tria had maintained an agent in this building for years as she kept agents in many buildings. A conventional precaution. Everything depended on timing now. Her agent in the building was poised to eliminate the inner guards at the spy-device station. Only the doorguard would remain. Tria waited for the agreed upon moment.

The street around her smelled of sewage: an open reclamation line. Accident? Riot damage? Tria didn't like the feeling of this place. What was Jedrik's game? Were there unknown surprises built into this guarded building? Jedrik must know by now that she was suspected of inciting the riot. . . and of other

matters. But would she feel safe there in her own enclave? People tended to feel safe among their own people. She couldn't have a very large force around her, though. Still, some private plot worked itself through the devious pathways of Jedrik's mind and Tria had not yet fathomed all of that plot. There were surface indicators enough to risk a confrontation, a parley. It was possible that Jedrik flaunted herself here to attract Tria. The potential in that possibility filled Tria with excitement.

Together, we'd be unbeatable!

Yes. . . Jedrik fitted the image of a superb agent. With the proper organization around her. . .

Once more, Tria glanced left and right. The streets were appropriately empty. She checked the time. Her moment had come. With hand motions, she sent flankers out left and right and another young male probing straight across the street to the gate. When they were in place, she slipped across with her three remaining companions in a triangular shield ahead.

The doorguard was a Human with grey hair and a pale face which glistened yellow in the dim light of the passage. His lids were heavy with a recent dose of his personal drug which Tria's agent had supplied.

Tria opened the gate, saw that the guard carried a round dead-man switch in his right hand as expected. His grin was gap-toothed as he held the switch toward her. She knew he'd recognized her. Much depended now on her agent's accuracy.

"Do you want to die for the frogs?" Tria asked.

He knew about the rioting, the trouble in the streets. And he was Human with Human loyalties, but he knew she worked for Broey, a Gowachin. The question was precisely calculated to fill him with indecision. Was she a turncoat? He had his Human loyalties and a fanatic's dependence upon this guard post which kept him out of the Warrens. And there was his personal addiction. All doorguards were addicted to something, but this one took a drug which dulled his senses and made it difficult for him to correlate several lines of thought. He wasn't supposed to use his drug on duty and this troubled him now. There were so many matters to be judged and Tria had asked the right question. He didn't want to die for the frogs.

She pointed to the dead-man switch, a question.

"It's only a signal relay," he said. "No bomb in this one."

She remained silent, forcing him to focus on his doubts.

The guard swallowed. "What do you. . ."

"Join us or die."

He peered past her at the others. Things such as this happened frequently in the Warrens, not very often here on the slopes which led up to the heights. The guard was not a one trusted with full knowledge of who he guarded. He had explicit instructions and a dead-man relay to warn of intruders. Others were charged with making the more subtle distinctions, the real decisions. That was this building's weak point.

"Join who?" he asked.

There was false belligerency in

his voice and she knew she had him then.

"Your own kind."

This locked his drug-dulled mind onto its primary fears. He knew what he was supposed to do: open his hand. That released the alarm device in the dead-man switch. He could do this of his own volition and it was supposed to deter attackers from killing him. A dead man's hand opened anyway. But he'd been fed with suspicions to increase his doubts. The device in his hand might not be a simple signal transmitter. What if it actually were a bomb? He'd had many long hours to wonder about that.

"We'll treat you well," Jedrik said.

She put a companionable arm around his shoulder, letting him get the full effect of her musk while she held out her other hand to show that it carried no weapon. "Demonstrate to my companion here how you pass that to your relief."

One of the young males stepped forward.

The guard showed how it was done, explaining slowly as he passed the device. "It's easy once you get the trick of it."

When her companion had the thing firmly in hand, she raised her arm from the guard's shoulder, touched his carotid artery with a poisoned needle concealed in a fingernail. The guard had only time to draw one gasping breath, his eyes gaping before he sank from her embrace.

"I treated him well," she said.

Her companions grinned. It was the kind of thing you learned to expect from Tria. They dragged the

body out of sight into the guard alcove and the young male with the signal device took his place at the door. The others protected Tria with their bodies as they swept into the building. The whole operation had taken less than two minutes. Everything was working smoothly as Tria's operations were expected to work.

The lobby and its radiating hallways were empty.

Good.

Her agent in this building deserved a promotion.

They took a stairway rather than trust an elevator. It was only three short flights. The upper hallway also was empty. Jedrik led the way to the designated door, used the key her agent had supplied. The door opened without a sound and they surged into the room.

Inside, the shades had been pulled and there was no artificial illumination. Her companions took up their places at the closed door and along both flanking walls. This was the most dangerous moment, something only Tria could handle.

Light came from thin strips where shades did not quite seal a south window. Tria discerned dim shapes of furniture, a bed with an indeterminate blob of darkness on it.

"Jedrik?" A whisper.

Tria's feet touched soft fabric, a sandal.

"Jedrik?"

Her shin touched the bed. She held a weapon ready while she felt for the dark blob. It was only a mound of bedding. She turned.

The bathroom door was closed, but she could make out a thin slot of light at the bottom of the door.

She skirted the clothing and sandal on the floor, stood at one side and motioned a companion to the other side. Thus far they had operated with a minimum of sound.

Gently, she turned the knob, thrust open the door. There was water in a tub and a body face down, one arm hanging flaccidly over the edge, fingers dangling. A dark purple welt was visible behind and beneath the left ear. Tria lifted the head by the hair, stared at the face, lowered it gently to avoid splashing. It was her agent, the one she'd trusted for the intelligence to set up this operation. And the death was characteristic of a Gowachin ritual slaying . . . that welt under the ear. A Gowachin talon driven in there to silence the victim before drowning? Or had it just been made to appear like a Gowachin slaying?

Tria felt the whole operation falling apart around her, sensed the uneasiness of her companions. She considered calling Gar from where she stood but a feeling of fear and revulsion came over her. She stepped out into the bedroom before opening her communicator and thumbing the emergency signal.

"Central." The voice was tense.

She kept her own voice flat. "Our agent's dead."

Silence. She could imagine them centering the locator on her transmission, then: "There?"

"Yes. She's been murdered."

Gar's voice came on: "That can't be. I talked to her less than an hour ago. She . . ."

"Drowned in a tub of water," Tria said. "She was knocked out first . . . something sharp driven in under an ear."

There was silence again while Gar absorbed this data. He would have the same uncertainties as Tria.

She glanced at her companions. They had taken up guard positions facing the doorway to the hall. Yes, if attack came, it would come from there.

The channel to Gar remained open and now Tria heard a babble of terse orders with only a few words intelligible: "... team . . . don't let . . . time . . ." Then, quite clearly: "They'll pay for this!"

Who will pay? Tria wondered.

She was beginning to make a new assessment of Jedrik.

Gar came back on: "Are you in immediate danger?"

"I don't know." It was a reluctant admission.

"Stay right where you are. We'll send help. I've notified Broey."

So that was the way Gar saw it. Yes. That was most likely the proper way to handle this new development. Jedrik had eluded them. There was no sense in proceeding alone. It would have to be done Broey's way now.

Tria shuddered as she issued the necessary orders to her companions. They prepared to sell themselves dearly if an attack came, but Tria was beginning to doubt there'd be an immediate attack. This was another message from Jedrik. The trouble came when you tried to interpret the message.

* * *

The military mentality is a bandit and raider mentality. Thus, all military represents a form of or-

ganized banditry where the conventional mores do not prevail. The military is a way of rationalizing murder, rape, looting and other forms of theft which are always accepted as part of warfare. When denied an outside target, the military mentality always turns against its own civilian population, using identical rationalizations for bandit behavior.

— BuSab Manual, Chapter Five:
"The Warlord Syndrome"

McKie, awakening from the communications trance, realized how he must've appeared to this strange Gowachin towering over him. Of course a Dosadi Gowachin would think him ill. He'd been shivering and mumbling in the trance, perspiration rolling from him. McKie took a deep breath.

"No, I'm not ill."

"Then it's an addiction?"

Recalling the many substances to which the Dosadi could be addicted, McKie almost used this excuse but thought better of it. This Gowachin might demand some of the addictive substance.

"Not an addiction," McKie said. He lifted himself to his feet, glanced around. The sun had moved perceptibly toward the horizon behind its streaming veil.

And something new had been added to the landscape—that gigantic tracked vehicle, which stood throbbing and puffing smoke from a vertical stack behind the Gowachin intruder. The Gowachin maintained a steady, intense concentration on

McKie, disconcerting in its unwavering directness. McKie had to ask himself if this were some threat or his Dosadi contact? Aritch's people had said a vehicle would be sent to the contact point, but . . .

"Not ill, not an addiction," the Gowachin said. "Is it some strange condition which only Humans have?"

"I *was* ill," McKie said. "But I'm recovered. The condition has passed."

"Do you often have such attacks?"

"I can go years without a recurrence."

"Years? What causes this . . . condition?"

"I don't know."

"I . . . ahhhh." The Gowachin nodded, gestured upward with his chin. "An affliction of the Gods, perhaps."

"Perhaps."

"You were completely vulnerable."

McKie shrugged. Let the Gowachin make of that what he could.

"You were not vulnerable?" Somehow, this amused the Gowachin, who added: "I am Bahrnk. Perhaps that's the luckiest thing which has ever happened to you."

Bahrnk was the name Aritch's aides had given as McKie's first contact.

"I am McKie."

"You fit the description, McKie, except for your, ahhhh, condition. Do you wish to say more?"

McKie wondered what Bahrnk expected. This was supposed to be a simple contact handing him on to

more important people. Aritch was certain to have knowledgeable observers on Dosadi, but Bahrnk was not supposed to be one of them. The warning about this Gowachin had been specific.

"Bahrnk doesn't know about us. Be extremely careful what you reveal to him. It'd be very dangerous to you if he were to learn that you came from beyond the God Veil."

The jumpdoor aides had reinforced the warning.

"If the Dosadi penetrate your cover you'll have to return to your pickup point on your own. We very much doubt that you could make it. Understand that we can give you little help once we've put you on Dosadi."

Bahrnk visibly came to a decision, nodding to himself.

"Jedrik expects you."

That was the other name Aritch's people had provided. "Your cell leader. She's been told that you're a new infiltrator from the Rim. Jedrik doesn't know your true origin."

"Who does know?"

"We cannot tell you. If you don't know then that information cannot be wrested from you. We assure you, though, that Jedrik isn't one of our people."

McKie didn't like the sound of that warning. "... wrested from you." As usual, BuSab sent you into the tiger's mouth without a full briefing on the length of the tiger's fangs.

Bahrnk gestured toward his tracked vehicle. "Shall we go?"

McKie glanced at the machine. It was an obvious war device, heavily armored with slits in its metal cab, projectile weapons protruding at odd

angles. It looked squat and deadly. Aritch's people had mentioned such things.

"We saw to it that they got only primitive armored vehicles, projectile weapons and relatively unimportant explosives, that sort of thing. They've been quite resourceful in their adaptations of such weaponry, however."

Once more, Bahrnk gestured toward his vehicle, obviously anxious to leave.

McKie was forced to suppress an abrupt feeling of profound anxiety. What had he gotten himself into? He felt that he had awakened to find himself on a terrifying slide into peril, unable to control the least threat. The sensation passed but it left him shaken. He delayed while he continued to stare at the vehicle. It was about six meters long with heavy tracks plus other wheels faintly visible within the shadows behind the tracks. It sported a conventional antenna at the rear for tapping the power transmitter in orbit beneath the barrier veil, but there was a secondary system which burned a stinking fuel. The smoke of that fuel filled the air around them with acidity.

"For what do we wait?" Bahrnk demanded. He glared at McKie with obvious fear and suspicion.

"We can go now," McKie said.

Bahrnk turned and led the way swiftly, clambering up over the tracks and into a shadowed cab. McKie followed, found the interior a tightly cluttered place full of a bitter oily smell. There were two hard metal seats with curved backs higher than the head of a seated Human or Gowachin. Bahrnk al-

ready occupied the seat on the left, working switches and dials. McKie dropped into the other seat. Folding arms locked across his chest and waist to hold him in place; a brace fitted itself to the back of his head. Bahrnk threw a switch. The door through which they'd entered closed with a grinding of servomotors and the solid clank of locks.

An ambivalent mood swept over McKie. He had always felt faint agoraphobia in open places such as the area around the rock. But the dim interior of this war machine with its savage reminders of primitive times touched an atavistic chord in his psyche and he fought an urge to claw his way outside. This was a trap!

An odd observation helped him overcome the sensation. There was glass over the slits which gave them their view of the outside. Glass. He felt it. Yes, glass. It was common stuff in the ConSentiency—strong yet fragile. He could see that this glass wasn't very thick. The fierce appearance of this machine had to be more show than actuality, then.

Bahrnk gave one swift sweeping glance to their surroundings, moved levers which set the vehicle into lurching motion. It emitted a grinding rumble with an overriding whine.

A track of sorts led from the white rock toward the distant city. It showed the marks of this machine's recent passage, a roadway to follow. Glittering reflections danced from bright rocks along the track. Bahrnk appeared very busy with whatever he was doing to guide them toward Chu.

McKie found his own thoughts

returning to the briefings he'd received on Tandaloor.

"Once you enter Jedrik's cell you're on your own."

Yes . . . he felt very much alone, his mind a clutter of data which had little relationship to any previous experience. And this planet could die unless he made sense out of that data plus whatever else he might learn here.

Alone, alone . . . If Dosadi died there'd be few sentient watchers. The Caleban's tempokinetic barrier would contain most of that final destructive flare. The Caleban would, in fact, feed upon the released energy. That was one of the things he'd learned from Fannie Mae. One consuming blast, a meal for a Caleban, and BuSab would get its final report from a dead agent, would be forced to start anew and without the most important piece of physical evidence—Dosadi.

The machine beneath McKie thundered, rocked and skidded but always returned to the track which led toward Chu's distant spires.

McKie studied the driver covertly. Bahrnk showed uncharacteristic behavior for a Gowachin . . . more direct . . . more Human. That was it! His Gowachin instincts had been contaminated by contact with Humans. Aritch was sure to despise that, fear it. Bahrnk drove with a casual expertise using a complex control system. McKie counted eight different levers and arms which the Gowachin employed. Some were actuated by knees, others by his head. His hands reached out while an elbow deflected a lever. The war machine responded.

Bahrnk spoke presently without taking his attention from driving.

"We may come under fire on the second ledge. There was quite a police action down there earlier."

McKie stared at him.

"I thought we had safe passage through."

"You Rimmers are always pres-sing."

McKie peered out the slits: bushes, barren ground, that lonely track they followed.

Bahrnk spoke.

"You're older than any Rimmer I ever saw before."

Aritch's people had warned McKie about this as a basic flaw in his cover, the need to conceal the subtle signs of age. They'd provided him with some geriatric assistance and an answer to give when challenged. He used that answer now.

"It ages you in a hurry out here."

"It must."

McKie felt that something in Bahrnk's response eluded him, but dared not pursue this. It was an un-productive exchange. And there was that reference to a 'police action.' McKie knew that the Rim Rabble, excluded from Chu, tried periodic raids, most often fruitless. Barbaric!

"What excuses did you use to come out here?" McKie asked.

Bahrnk shot a probing glance at him, raised one webbed hand from the controls to indicate a handle in the roof over his head. The handle's purpose was unknown to McKie and he feared he had already betrayed too much ignorance. But Bahrnk was speaking.

"Officially, I'm scouting this

area for any hidden surprises the Rimmers may have stored out here. I often do that. Unofficially, everyone thinks I've a secret pond out here full of fertile females."

A pond . . . not a graluz. Again, it was a relatively fruitless exchange with hidden overtones.

McKie stared silently ahead through a slit. Their dusty track made a slow and wide sweep left, abruptly angled down onto a narrow ledge cut from red rock walls. Bahrnk put them through a series of swift changes in speed: slow, fast, slow fast. The red rock walls raced past. McKie peered out and downward on his side. Far below lay jungle verdure and, in the distance, the smoke and spires of Chu—fluted buildings ranked high over dim background cliffs.

The speed changes appeared purposeless to McKie. And the dizzy drop off of the cliff on his side filled him with awe. This narrow ledge hugged the cliff, turning as the cliff turned—now into shadows and now into light. The machine roared and groaned around him. The smell of oil made his stomach heave. And the far away city seemed little closer than it had from the cliff top, except that it was taller, more mysterious in its smoky obscurity.

"Don't expect any real trouble until we reach the first ledge," Bahrnk said.

McKie glanced at him. First ledge? Yes, that'd be the first elevation outside the city's walls. The gorge within which Chu had been raised came down to river level in broad steps, each one numbered. Chu had been anchored to island

hills and flats where the river slowed and split into many arms. And the hills which had resisted the river were almost solid iron ore, as were many of the flanking ledges.

"Glad to get off there," Bahrnk said.

Their narrow ledge had turned at right angles away from the cliff onto a broad ramp which descended into grey-green jungle. The growth enclosed them in abrupt green shadows. McKie, looking out to the side, identified hair fronds and broad leaf ficus, giant spikes of barbed red which he had never before seen. Their track, like the jungle floor, was grey mud. McKie looked from side to side: the growth appeared an almost equal mixture of Terran and Tandaloor interspersed with many strange plants.

Sunlight made him blink as they raced out of the overhanging plants onto a plain of tall grass which had been trampled, blasted and burned by recent violence. He saw a pile of wrecked vehicles off to the left, twisted shards of metal with, here and there, a section of track or a wheel aimed at the sky. Some of the wrecks looked similar to the machine in which he now rode.

Bahrnk skirted a blast hole at an angle which gave McKie a view into the hole's depths. Torn bodies lay there. Bahrnk made no comment, seemed hardly to notice.

Abruptly, McKie saw signs of movement in the jungle, the flitting presence of both Humans and Gowachin. Some carried what appeared to be small weapons—the glint of a metal tube, bandoliers of bulbous white objects around their necks. McKie had not tried to

memorize all of Dosadi's weaponry; it was, after all, primitive, but he reminded himself now that primitive weapons had created these scenes of destruction.

Their track plunged again into overhanging growth, leaving the battlefield behind. Deep green shadows enclosed the lurching, rumbling machine. McKie, shaken from side to side against the restraints, carried an odor memory with him: deep, bloody musks and the beginnings of rot. Their shaded avenue made a sharp right turn, emerged onto another ledge slashed by a plunging cut into which Bahrnk took them, turning onto another cliff-hugging ledge.

McKie stared across Bahrnk through the slits. The city was nearer now. Their rocking descent swept his gaze up and down Chu's towers which lifted like silvery organ pipes out of the Council Hills. The far cliff was a series of misted steps fading into purple grey. Chu's Warrens lay smokey and hazed all around the fluted towers. And he could make out part of the city's enclosing outer wall. Squat forts dotted the wall's top, offset for enfilading fire. The city within the wall seemed so tall. McKie had not expected it to appear so tall . . . but that spoke of the population pressures in a way that could not be misunderstood.

Their ledge ended at another battlefield plain strewn with bodies of metal and flesh, the death stink an inescapable vapor. Bahrnk spun his vehicle left, right, dodged piles of torn equipment, avoided craters where mounds of flesh lay beneath insect blankets. Ferns and

other low growth were beginning to spring upright after the monstrous trampling. Grey and yellow flying creatures sported in the ferntops, uncaring of all that death. Aritch's aides had warned McKie that Dosadi's life existed amidst brutal excesses, but the actuality sickened him. He identified both Gowachin and Human forms among the sprawled corpses. The sleek green skin of a young Gowachin female, orange fertility marks prominent along her arms, especially revolted him. McKie turned sharply away, found Bahrnk studying him with tawny mockery in the shining Gowachin eyes. Bahrnk spoke as he drove.

"There's informers everywhere, of course, and after this . . ." His head nodded left and right. ". . . you'll have to move with more caution than you might've anticipated."

A brittle explosion punctuated his words. Something struck the vehicle's armor on McKie's side. Again they were a target. And again. The clanging of metal against metal came thickly, striking all around them, even on the glass over the view slits.

McKie suppressed his shock. That thin glass did not shatter. He knew about thick shields of tempered glass, but this put a new dimension on what he'd been told about the Dosadi. Quite resourceful indeed!

Bahrnk drove with apparent unconcern.

More explosive attack came from directly in front of them, flashes of orange in the jungle beyond the plain.

"They're testing," Bahrnk said. He pointed to one of the slits. "See? They don't even leave a mark on that new glass."

McKie spoke from the depths of his bitterness.

"Sometimes you wonder what all this proves except that our world runs on distrust."

"Who trusts?"

Bahrnk's words had the sound of a catechism.

McKie said:

"I hope our friends know when to stop testing."

"They were told we couldn't take more'n eighty millimeters."

"Didn't they agree to pass us through?"

"Even so, they're expected to try a few shots if just to keep me in good graces with my superiors."

Once more, Bahrnk put them through a series of dazzling speed changes and turns for no apparent reason. McKie lurched against the restraints, felt bruising pain as an elbow hit the side of the cab. An explosion directly behind rocked them up onto the left track. As they bounced, Bahrnk spun them left, avoided another blast which would've landed directly on them along their previous path. McKie, his ears ringing from the explosions, felt the machine bounce to a stop, reverse as more explosions erupted ahead. Bahrnk spun them to the right, then left, once more charged full speed ahead right into an unbroken wall of jungle. With explosions all around, they crashed through greenery, turned to the right along another shadowed muddy track. McKie had lost all sense of direction, but the attack had ceased.

Bahrnk slowed them, took a deep breath through his ventricles.

"I knew they'd try that."

He sounded both relieved and amused.

McKie, shaken by the brush with death, couldn't find his voice.

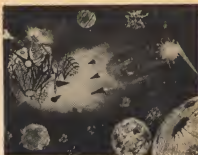
Their shadowy track snaked through the jungle for a space, giving McKie time to recover. By then, he didn't know what to say. He couldn't understand Bahrnk's amusement, the lack of enduring concern over such violent threat.

Presently, they emerged onto an untouched sloping plain as smooth and green as a park lawn. It dipped gently downward into a thin screen of growth through which McKie could see a silver green tracery of river. What caught and held McKie's attention, however, was a windowless, pock-walled grey fortress which lifted from the plain in the middle distance. It towered over the growth screening the river. But-tressed arms reached toward them to enclose a black metal barrier.

"That's our gate," Bahrnk said.

Bahrnk turned them left, lined up with the center of the buttressed arms. "Gate Nine and we're home through the tube," he said.

McKie nodded. Walls, tubes and gates: those were the keys to Chu's defenses. They had "barrier and fortress minds" on Dosadi. This tube would run beneath the river. He tried to place it on the map which Aritch's people had planted in his mind. He was supposed to know the geography of this place, its geology, religions, social patterns, the intimate layout of each island's walled defenses, but he found it hard to locate himself now



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on that mental map. He leaned forward to the slit, peered upward as the machine began to gather speed, saw the great central spire with its horizontal clock. All the hours of map briefing snicked into place.

"Yes, Gate Nine."

Bahrank, too busy driving, did not reply.

McKie dropped his gaze to the fortress, stifled a gasp.

The rumbling machine was plunging downslope at a frightening pace, aimed directly toward that black metal barrier. At the last instant, when it seemed they would crash into it, the barrier leaped upward. They shot through into a dimly illuminated tube. The gate thundered closed behind them. Their machine made a racketing sound on metal grating beneath the tracks.

Bahrank slowed them, shifted a lever beside him. The machine lifted onto wheels with an abrupt reduction in noise which made McKie feel that he'd been deafened. The feeling was heightened by the realization that Bahrank had said the same thing to him several times.

"Jedrik says you come from beyond the far mountains. Is that true?"

"Jedrik says it." He tried to make it sound wry, but it came out almost questioning.

Bahrank was concentrating on a line of thought, however, as he drove them straight down the grating floor of the dim tube.

"There's a rumor that you Rimmers have started a secret settlement back there, that you're trying to build your own city."

"An interesting rumor."

"Isn't it, though?"

The single line of overhead lights in the tube left the cab's interior darker than it'd been outside, illuminated by only the faint reflections from instruments and dials. But McKie had the odd sensation that Bahrank saw him clearly, was studying every expression. Despite the impossibility of this, the thought persisted. What was behind Bahrank's probing?

Why do I feel that he sees right through me?

These disquieting conjectures ended as they emerged from the tube onto a Warren street. Bahrank spun them to the right along a narrow alleyway in deep grey shadows.

Although he'd seen many representations of these streets, the actuality deepened McKie's feelings of misgiving.

So dirty . . . oppressive . . . so many people. They were everywhere!

Bahrank drove slowly now on the silent wheels, the tracks raised off the paving. The big machine eased its way through narrow little streets, some paved with stone, some with great slabs of dark substance. All the streets where shaded by overhanging upper stories whose height McKie could not judge through the slits. He saw shops barred and guarded. An occasional stairway, also guarded, led up or down into repellant darkness. Only Humans occupied these streets, and no casual, pedestrian expressions on any of them. Jaws were set on grim mouths. Hard questioning eyes peered at the passing vehicle. Both men and woman wore the universal dark, one-piece clothing of the Labor Pool.

Noting McKie's interest, Bahrnk spoke.

"This is a Human enclave and you have a Gowachin driver."

"Can they see us in here?"

"They know. And there's trouble coming."

"Trouble?"

"Gowachin against Human."

This appalled McKie and he wondered if this were the source of those forebodings which Aritch and aides would not explain: destruction of Dosadi from within. But Bahrnk continued:

"There's a growing separation between Humans and Gowachin, worse than it's ever been. You may be the last Human to ride with me."

Aritch and company had prepared McKie for Dosadi's violence, hunger and distrust, but they'd said nothing about species against species . . . only that someone they refused to name could destroy the place from within. What was Bahrnk trying to say? McKie dared not expose his ignorance by probing and this inability dismayed him.

Bahrnk, meanwhile, nosed their machine out of a narrow passage onto a wider street which was crowded by carts, each piled with greenery. The carts moved aside slowly as the armored vehicle approached, hatred plain in the eyes of the Humans who moved with the carts. The press of people astonished McKie: for every cart (and he lost count of them within a block) there were at least a hundred people crowding around, lifting arms high, shouting at the ring of people who stood shoulder to shoulder around each cart, their

backs to the piled contents and obviously guarding those contents.

McKie, staring at the carts, realized with a shocked sense of recognition that he was staring at carts piled with garbage. The crowds of people were buying garbage.

Again, Bahrnk acted the part of tour guide.

"This is called the Street of the Hungry. That's very select garbage, the best."

McKie recalled one of Aritch's aides saying there were restaurants in Chu which specialized in garbage from particular areas of the city, that no poison-free food was wasted.

The passing scene compelled McKie's attention: hard faces, furtive movements, the hate and thinly suppressed violence, all of this immersed in a *normal* commercial operation based on garbage. And the numbers of these people! They were everywhere around: in doorways, guarding and pushing the carts, skipping out of Bahrnk's path. New smells assaulted McKie's nostrils, a fetid acidity, a stink such as he had never before experienced. Another thing surprised him: the appearance of antiquity in this Warren. He wondered if all city populations crowded by threats from outside took on this ancient appearance. By ConSentient standards, the population of Chu had lived here only a few generations, but the city looked older than any he'd ever seen.

With an abrupt rocking motion, Bahrnk turned their machine down a narrow street, brought them to a stop. McKie, looking out the slit on his right, saw an arched entry in a

grimy building, a stairway leading downward into gloom.

"Down there's where you meet Jedrik," Bahrnk said. "Down those stairs, second door on your left. It's a restaurant."

"How'll I know her?"

"Didn't they tell you?"

"I . . ." McKie broke off. He'd seen pictures of Jedrik during the Tandaloer briefings, realized now that he was trying to delay leaving Bahrnk's armored cocoon.

Bahrnk appeared to sense this.

"Have no fear, McKie. Jedrik will know you. And McKie . . ."

McKie turned to face the Gowachin.

" . . . go directly to the restaurant, take a seat, wait for Jedrik. You'll not survive long here without her protection. Your skin's dark and some Humans prefer even the green to the dark in this quarter. They remember Pylash Gate here. Fifteen years isn't long enough to erase that from their minds."

Nothing about a Pylash Gate had been included in McKie's briefings and now he dared not ask.

Bahrnk moved the switch which opened McKie's door. Immediately, the stink of the street was amplified to almost overpowering proportions. Bahrnk, seeing him hesitate, spoke sharply.

"Go quickly!"

McKie descended in a kind of olafactory daze, found himself standing on the side of the street, the object of suspicious stares from all around. The sight of Bahrnk driving away was the cutting of his last link to the ConSentiency and all the familiar things which might protect him.

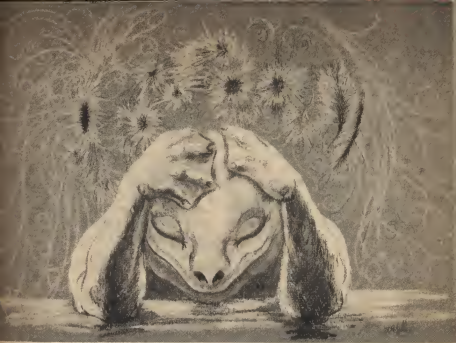
Never in his long life had McKie felt this much alone.

No legal system can maintain justice unless every participant—magisters, prosecutors, legums, defendants, witnesses, all—risks life itself in whatever dispute comes before the bar. Everything must be risked in the Courtarena. If any element remains outside the contest and without personal risk, justice inevitably fails.

— Gowachin Law

Near sunset there was a fine rain which lasted well into darkness, then departed on the gorge wind which cleared Dosadi's skies. It left the air crystalline, cornices dripping puddles in the streets. Even the omnipresent Warren stink was diluted and Chu's inhabitants showed a predatory lightness as they moved along the streets.

Returning to headquarters in an armored troop carrier which carried only his most trusted Gowachin, Broey noted the clear air even while he wondered at the reports which had brought him racing from the Council Hills. When he entered the conference room, Broey saw that Gar already was there standing with his back to the dark window which looked out on the eastern cliffs. Broey wondered how long Gar had been there. No sign of recognition passed between Gowachin and Human, but this only emphasized the growing separation of the species.



They'd both seen the reports which contained that most disturbing datum: the killing of a Human double agent under circumstances which pointed at Broey himself.

Broey crossed to the head of the conference table, flipped the toggle which activated his communicator, addressed the screen which only he could see.

"Assemble the Council and link for conference."

The response came as a distorted buzz filtered through scramblers and suppressed by a privacy cone. Gar, standing across the room, could make no sense out of the noises coming from the communicator.

While he waited for the Council members to come on the conference link, Broey seated himself at the communicator, summoned a Gowachin aide to the screen and

spoke in a low voice masked by the privacy cone.

"Start a security check on all Humans in positions where they might threaten us. Use Plan D."

Broey glanced up at Gar. The Human's mouth worked silently. He was annoyed by the privacy cone and his inability to tell exactly what Broey was doing. Broey continued speaking to his aide.

"I'll want the special force deployed as I told you earlier . . . Yes . . ."

Gar pointedly turned his back on his conversation, stared out at the night.

Broey continued to address his aide in the screen.

"No! We must include even the Humans in this conference. Yes, that's the report Gar made to me. Yes, I also received that informa-

tion. Other Humans can be expected to riot and drive out their Gowachin neighbors and there'll be retaliations. Yes, that was my thought when I saw the report."

Broey turned off the privacy cone and scrambler. Tria had just come onto his screen with an override, interrupting the conversation with his security aide. She spoke in a low, hurried voice with only a few words intelligible to Gar across the room. But Broey's suspicions were becoming obvious. He heard Tria out, then:

"Yes . . . it would be logical to suppose that such a killing was made to look like Gowachin work for . . . I see. But the scattered incidents which . . . Indeed? Well, under the circumstances . . ."

He left the thought incomplete, but his words drew a line between Human and Gowachin, even at the highest levels of his Advisory Council.

"Tria, I must make my own decisions on this."

While Broey was speaking, Gar brought up a chair and placed it near the communicator, sat down. Broey had finished his conversation with Tria and restored the privacy circuits, however, and even though he sat nearby Gar could not penetrate their protective screen. He was close enough now, though, to hear the buzzing of the privacy system and the sound annoyed Gar. He did not try to conceal his annoyance.

Broey saw Gar but gave no indication that he approved or disapproved Gar's nearness.

"So I understand," Broey said. "Yes . . . I'll issue those orders as soon as I've finished here.

No . . . Agreed. That would be best." He closed the circuit. The annoying buzz stopped.

"Jedrik means to set Gowachin against Human, Human against Gowachin," Gar said.

"If so, it's been a long time in secret preparation," Broey said.

His words implied many things: that there was conspiracy in high places, that the situation had achieved dangerous momentum without being detected, that all of the inertial forces could not now be anticipated.

"You expect it to get worse," Gar said.

"Hopefully."

Gar stared at him for a long period, then:

"Yes."

It was clear that Broey wanted a well-defined condition to develop, one which would provide clear predictions of the major consequences. He was prepared for this. When Broey understood the situation to his own satisfaction, he'd use his own undeniable powers to gain as much as possible during a period of upset.

Gar broke the silence.

"But if we've misunderstood Jedrik's intent . . ."

"It helps us when the innocent suffer," Broey said, paraphrasing part of an old axiom which every Dosadi knew.

Gar completed the thought for him.

"But who's innocent?"

Before Broey could respond, his screen came alight with the assembled faces of his Council, each face in its own little square. Broey conducted the conference quickly, al-

lowing few interruptions. There were no house arrests, no direct accusations, but his words and manner divided them by species. When he was through, Gar imagined the scrambling which must be going on right then in Chu while the powerful assembled their defenses.

Without knowing how he sensed this, Gar felt that this was exactly what Jedrik had wanted and that it'd been a mistake for Broey to increase the tensions.

After turning off the communicator, Broey sat back and addressed himself to Gar with great care.

"Tria tells me that Jedrik cannot be found."

"Didn't we expect that?"

"Perhaps." Broey puffed his jowls. "What I don't understand is how a simple Liaitor could elude my people *and* Tria."

"I think we've underestimated this Jedrik. What if she comes from . . ." His chin jerked ceilingward.

Broey considered this. He'd been supervising the interrogation of Bahrnk at a secure post deep in the Council Hills when the summons to headquarters had interrupted. The accumulating reports indicated a kind of trouble Chu had known at various times, but never at this magnitude. And Bahrnk's information had been disappointing. He'd delivered this Rim infiltrator named McKie to such and such an address. (Security had been unable to check this in time because of the riots.) Bahrnk's beliefs were obvious. And perhaps the Rimmers *were* trying to build their own city beyond the mountains. Broey thought this

unlikely. His sources in the Rim had proved generally trustworthy and his special source was always trustworthy. Besides, such a venture would require gigantic stocks of food, all of it subject to exposure in the regular accounting. That, after all, was the Liaitor function, why he had . . . No, that was not probable. The Rim subsisted on the lowest of Chu's leavings and whatever could be wrested from Dosadi's poisonous soil. No . . . Bahrnk was wrong. This McKie was peculiar, but in quite another way. And Jedrik must've known this before anyone else . . . except himself. The paramount question remained: Who'd helped her?

Broey sighed.

"We have a long association, Gar. A person of your powers who has worked his way from the Rim through the Warrens . . ."

Gar understood. He was being told that Broey looked upon him with active suspicion. There'd never been any real trust between them, but this was something else: nothing openly spoken, nothing direct or specific, but the meaning clear. It was not even sly; it was merely Dosadi.

For a moment, Gar didn't know which way to turn. There'd always been this possibility in his relationship with Broey, but long acceptance had lulled Gar into a dangerous dependency. Tria had been his most valuable counter. He needed her now, but she had other, much more demanding, duties at this juncture.

Gar realized now that he would have to precipitate his own plans, calling in all of the debts and de-

pendencies which were his due. He was distracted by the sound of many people hurrying past in the outer hall. Presumably, things were coming to a head faster than expected.

Gar stood up, stared vaguely out the windows at those dark shadows in the night which were the Rim cliffs. While waiting for Broey, Gar had watched darkness settle there, watched the spots of orange appear which were the Rim's cookfires. Gar knew those cookfires, knew the taste of the food which came from them, knew the flesh-dragging dullness which dominated existence out there. Did Broey expect him to flee back to that? Broey would be astonished at the alternatives open to Gar.

"I will leave you now," Broey said. He arose and waddled from the room. What he meant was: "Don't be here when I return."

Gar continued to stare out the windows. He seemed lost in angry reverie. Why hadn't Tria reported yet? One of Broey's Gowachin aides came in, fussed over papers on a corner table.

It was actually no more than five minutes that Gar remained standing thus. He shook himself presently, turned and let himself out of the room.

Scarcely had he set foot in the outer passage than a troop of Broey's Gowachin shouldered their way past him into the conference room. They'd been waiting for him to leave.

Angry with himself for what he knew he must do, Gar turned left, strode down the hall to the room where he knew he'd find Broey.

Three Gowachin wearing Security brassards followed him, but did not interfere. Two more Gowachin guarded Broey's door but they hesitated to stop him. Gar's power had been felt here too long. And Broey, not expecting Gar to follow, had failed to issue specific orders. Gar counted on this.

Broey, instructing a group of Gowachin aides, stood over a table cluttered with charts. Yellow light from fixtures directly overhead played shifting shadows on the charts as the aides bent over the table and made notes. Broey broke off at the intrusion, his surprise obvious.

Gar spoke before Broey could order him removed.

"You still need me to keep you from making the worst mistake of your life."

Broey straightened, did not speak, but the invitation for Gar to continue was there.

"Jedrik's playing you like a fine instrument. You're doing precisely what she wants you to do."

Broey's cheeks puffed. The shrug angered Gar.

"When I first came here, Broey, I took certain precautions to insure my continued health should you ever consider violence against me."

Again, Broey gave that maddening Gowachin shrug. This was all so mundane. Why else did this fool Human continue alive and at liberty?

"You've never been able to discover what I did to insure myself against you," Gar said. "I have no addictions. I'm a prudent person and, naturally, have means of dying before your experts on pain could

overcome my reason. I've done all of the things you might expect of me . . . and something more, something you now need *desperately* to know."

"I have my own precautions, Gar."

"Of course, and I admit I don't know what they are."

"So what do you propose?"

Gar gave a little laugh, not quite gloating.

"You know my terms."

Broey shook his head from side to side, an exquisitely Human gesture.

"Share the rule? I'm astonished at you, Gar."

"Your astonishment hasn't reached its limits. You don't know what I've really done."

"Which is?"

"Shall we retire to a more private place and discuss it?"

Broey looked around at his aides, waved for them to leave.

"We will talk here."

Gar waited until he heard the door close behind him on the last of the departing aides.

"You probably know about the death fanatics we've groomed in the Human enclaves."

"We are prepared to deal with them."

"Properly motivated, fanatics can keep great secrets, Broey."

"No doubt. Are you now going to reveal such a secret?"

"For years now, my fanatics have lived on reduced rations, preserving and exporting their surplus rations to the Rim. We have enough, megatons of food out there. With a whole planet in which to hide it, you'll never find it. City

food, every bit of it and we will . . ."

"Another city!"

"More than that. Every weapon the city of Chu has, we have."

Broey's ventricle lips went almost green with anger.

"So you never really left the Rim?"

"The Rim-born cannot forget."

"After all that Chu has done for you . . ."

"I'm glad you didn't mention blasphemy."

"But the Gods of the Veil gave us a mandate!"

"Divide and rule, subdivide and rule even more powerfully, fragment and rule absolutely."

"That's not what I meant."

Broey breathed deeply several times to restore his calm. "One city and only one city. That is our mandate."

"But the other city will be built."

"Will it?"

"We've dug in the factories to provide our own weapons and food. If you move against our people inside Chu, we'll come at you from the outside, shatter your walls and . . ."

"What do you propose?"

"Open cooperation for a separation of the species, one city for Gowachin, one for Human. What you do in Chu will be your own business then, but I'll tell you that we of the new City will rid ourselves of the Demopol and its aristocracy."

"You'd create another aristocracy?"

"Perhaps. But my people will die for the vision of freedom we share.

We no longer provide our bodies for Chu!"

"So that's why your fanatics are all Rim-born."

"I see that you don't yet understand, Broey. My people are not merely Rim-born; they are willing, even *eager* to die for their vision."

Broey considered this. It was a difficult concept for a Gowachin, whose Graluz guilt was always transformed into a profound respect for the survival drive. But he saw where Gar's words must lead and he built an image in his mind of fleshly Human waves throwing themselves onto all opposition without inhibitions about pain, death or survival in any respect. They might very well capture Chu. The idea that countless Rim immigrants lived within Chu's walls in readiness for such sacrifice filled him with deep disquiet. It required strong self-control to conceal this reaction. He did not for an instant doubt Gar's story. It was just the kind of thing this dry-fleshed Rimmer would do. But why was Gar revealing this now?

"Did Jedrik order you to prepare me for . . ."

"Jedrik isn't part of our plan. She complicates matters for us, but the kind of upset she's igniting is just the sort of thing we can exploit better than you."

Broey weighted this with what he knew about Gar, found it valid as far as it went, but it still did not answer the basic question.

"Why?"

"I'm not ready to sacrifice my people," Gar said.

That had the ring of partial truth. Gar had shown many times that he could make hard decisions. But

numbered among his fanatic hordes there doubtless were certain skills he'd prefer not losing . . . not yet. Yes, that was the way Gar's mind worked. And Gar would know the profound respect for life which matured in a Gowachin breast after the weeding frenzy. Gowachin, too, could make bloody decisions, but the guilt . . . oh, the guilt . . . Gar counted on the guilt. Perhaps he counted too much.

"Surely, you don't expect me to take an open and active part in your Rim city project?"

"If not open, then passive."

"And you insist on sharing the rule of Chu?"

"For the interim."

"Impossible!"

"In substance if not in name."

"You have been my advisor."

"Will you precipitate violence between us with Jedrik standing there to pick up whatever she can gain from us?"

"Ahhhhhhh . . ." Broey nodded.

So that was it! Gar was not part of this Jedrik thing. Gar was afraid of Jedrik, more afraid of her than he was of Broey. This gave Broey cause for caution. Gar was not easily made fearful. What did he know of this Jedrik that Broey did not know? But now there was a sufficient reason for compromise. The unanswered questions could be answered later.

"You will continue as my chief advisor," Broey said.

It was acceptable. Gar signified his consent by a curt nod.

The compromise left an empty feeling in Broey's digestive nodes, though. Gar knew he'd been manipulated to reveal his fear of Jedrik.

Gar could be certain that Broey would try to neutralize the Rim city project. But the magnitude of Gar's plotting went far beyond expectations, leaving too many unknowns. One could not make accurate decisions with insufficient data. Gar had given away information without receiving an equal exchange. That was not like Gar. Or was that a correct interpretation of what'd happened here? Broey knew he had to explore this, risking one piece of accurate information as bait.

"There's been a recent increase of mystical experiences by Gowachin in the Warrens."

"You know better than try that religious nonsense on me!"

Gar was actually angry.

Broey concealed his amusement. Gar did not know then (or did not accept) that the God of the Veil sometimes spoke to his flock, that God spoke truly and accurately to his anointed and would answer some questions.

Much had been revealed here, more than Gar suspected. Bahrnk had been right. And Jedrik would have to know about Gar's Rim city. It was possible that Jedrik wanted Broey to know and had maneuvered Gar into revealing the plot. If Gar saw this, that would be enough to make him fearful.

Why didn't the God reveal this to me? Broey wondered. Am I being tested?

Yes, that had to be the answer, because there was one thing certain now:

This time, I'll do what the God advises.

* * *

People always devise their own justifications. Fixed and immovable Law merely provides a convenient structure within which to hang your justifications and the prejudices behind them. The only universally acceptable Law for mortals would be one which fitted every justification. What obvious nonsense. Law must expose prejudice and question justification. Thus, Law must be flexible, must change to fit new demands. Otherwise, it becomes merely the justification of the powerful.

— Gowachin Law
(The BuSab Translation)

It required a moment after Bahrnk drove away for McKie to recover his sense of purpose. The buildings rose tall and massive over him, but through a quirk of this Warren's growth, an opening to the west allowed a spike of the silvery afternoon sunlight to slant into the narrow street. The light threw hard shadows on every object, accented the pressure of Human movement. McKie did not like the way people looked at him: as though everyone measured him for some private gain.

Slowly, McKie pressed through the passing throng to the arched entry, observing all he could without seeming to do so. After all those years in BuSab, all of the training and experience which had qualified him for such a delicately powerful agency, he possessed superb knowledge of the ConSentiency's species. He drew on that knowledge now, sensing the powerful secrecy which

governed these people. Unfortunately, his experience also was replete with knowledge of what species could do to species, not to mention what a species could do to itself. The Humans around him reminded him of nothing more than a mob about to explode.

Moving with a constant readiness to defend himself, he went down a short flight of stairs into cool shadows where the foot traffic was lighter but the smells of rot and mold were more pronounced.

Second door on the left.

He went to the doorway where Bahrnk had directed him, peered into the opening: another stairway down. Somehow, this dismayed him. The picture of Chu growing in his mind was not at all what Aritch's people had drawn. Had they deliberately misled him? If so, why? Was it possible they really didn't understand their monster? The array of answers to his questions chilled him. What if a few of the observers sent here by Aritch's people had chosen to capitalize on whatever power Dosadi provided?

In all of his career, McKie had never before come across a world so completely cut off from the rest of the universe. This planet was *alone*, without many of the amenities which graced the other ConSentient worlds: no common access to jumpdoors, no concourse of the known species, none of the refined pleasures nor the sophisticated traps which occupied the denizens of other worlds. Dosadi had developed its own ways. And the instructors on Tandaloor had returned time and again to that constant note of warning—that these

lonely *primitives* would take over the ConSentientcy if released upon the universe.

"Nothing restrains them. Nothing."

That was, perhaps, an overstatement. Some things did restrain the Dosadi physically. But they were not held back by the conventions or mores of the ConSentientcy. Anything could be purchased here, any forbidden depravity which the imagination might conceive. This idea haunted McKie. He thought of this and of the countless substances to which many Dosadi were addicted. The power leverage such things gave to the unprincipled few was terrifying.

He dared not pause here wrestling with his indecisions, though. McKie stepped into the stairwell with a boldness which he did not feel, following Bahrnk's directions because he had no choice. The bottom landing was a wider space in deep shadows, one dim light on a black door. Two Humans dozed in chairs beside the door while a third squatted beside them with what appeared to be a crude projectile weapon in his hands.

"Jedrik summoned me," McKie said.

The guard with the weapon nodded for him to proceed.

McKie made his way past them, glanced at the weapon: a length of pipe with a metal box at the back and a flat trigger atop the box held by the guard's thumb. McKie almost missed a step. The weapon was a dead-man bomb! Had to be. If that guard's thumb relaxed for any reason, the thing no doubt would explode and kill everyone in

the stairwell. McKie glanced at the two sleepers. How could they sleep in such circumstances?

The black door with its one dim light commanded his attention now. A strong smell of highly seasoned cooking dominated the other stinks here. McKie saw that it was a heavy door with a glittering spyeye at face level. The door opened at his approach. He stepped through into a large low room crowded . . . *jammed!* with people seated on benches at trestle tables. There was barely room for passage between the benches. And everywhere that McKie looked he saw people spooning food into their mouths from small bowls. Waiters and waitresses hurried through the narrow spaces slapping down bowls and removing empties.

The whole scene was presided over by a fat woman seated at a small desk on a platform at his left. She was positioned in such a way that she commanded the entry door, the entire room and swinging doors at the side through which the serving people flowed back and forth. She was a monstrous woman and she sat her perch as though she had never been anywhere else. Indeed, it was easy for McKie to imagine that she could not move from her position. Her arms were bloated where they squeezed from the confines of short-sleeved green coveralls. Her ankles hung over her shoe tops in folds.

Take a seat and wait.

Bahrnk's warning had been clear.

McKie looked for an opening on the benches. Before he could move, the fat woman spoke in a squeaky voice.

"Your name?"

McKie's gaze darted toward those beady eyes in their folds of fat.

"McKie."

"Thought so."

She raised a dimpled finger. From somewhere in the crush a young boy came hurrying. He could not have been over nine years old but his eyes were cold with adult wisdom. He looked up to the fat woman for instructions.

"This is the one. Guide him."

The boy turned and, without looking to see if McKie followed, hurried down the narrow pathway where the doors swung back and forth to permit the passage of serving people. Twice, McKie was almost run down by waiters. His guide was able to anticipate the opening of every door and skipped aside.

At the end of this passage, there was another solid black door with spyeye. The door opened onto a short passage with closed doors on both sides, a blank wall at the end. The blank wall slid aside for them and they descended into a narrow, rock-lined way lighted by widely spaced bulbs overhead. The walls were damp and evil smelling. Occasionally, there were wide places with guards. They passed through several guarded doors, climbed up and went down. McKie lost track of the turns, the doors and guard posts. After a time, they climbed to another short hallway with doors along its sides. The boy opened the second door on the right, waited for McKie to enter, closed the door. It was all done without words. McKie heard the boy's footsteps recede.

The room was small and dimly

lighted by windows high in the wall opposite the door. A trestle table about two meters long with benches down both sides and a chair at each end almost filled the space. The walls were grey stone and unadorned. McKie worked his way around to the chair at the far end, sat down. He remained seated there silently for several minutes, absorbing this place. It was cold in the room: Gowachin temperature. One of the high windows behind him was open a crack and he could hear street noises: a heavy vehicle passing, voices arguing, many feet. The sense of the Warren pressing in upon this room was very strong. Nearer at hand from beyond the single door, he heard crockery banging and an occasional hiss as of steam.

Presently, the door opened and a tall, slender woman entered, slipping through the door at minimal opening. For a moment as she turned, the light from the windows concentrated on her face, then she sat down at the end of the right hand bench, dropping into the shadows.

McKie had never before seen such hard features on a woman. She was brittle rock with ice crystal eyes of palest blue. Her black hair was closely cropped into a stiff bristle. He repressed a shudder. The rigidity of her body amplified the hard expression on her face. It was not the hardness of suffering, not that alone, but something far more determined, something anchored in a kind of agony which might explode at the slightest touch. On a ConSentient world where the geriatric arts were available she could

have been any age between thirty-five and one hundred and thirty-five. The dim light into which she had seated herself complicated his scrutiny but he suspected she was younger than thirty-five.

"So you are McKie."

He nodded.

"You're fortunate Adril's people got my message. Broey's already searching for you. I wasn't warned that you were so dark."

He shrugged.

"Bahrank sent word that you could get us all killed if we're not careful with you. He says you don't have even rudimentary survival training."

This surprised McKie, but he held his silence.

She sighed. "At least you have the good sense not to protest. Well . . . welcome to Dosadi McKie. Perhaps I'll be able to keep you alive long enough for you to be of some use to us."

Welcome to Dosadi!

"I'm Jedrik as you doubtless already know."

"I recognize you."

This was only partly true. None of the representations he'd seen had conveyed the ruthless brutality which radiated from her.

A hard smile flickered on her lips, was gone.

"You don't respond when I welcome you to our planet."

McKie shook his head. Aritch's people had been specific in their injunction:

"She doesn't know your origin. Under no circumstances may you reveal to her that you come from beyond the God Wall. It could be immediately fatal."

McKie continued to stare silently at her.

A colder look came over Jedrik's features, something in the muscles at the corners of the mouth and eyes.

"We shall see. Now: Bahrnk says you carry a wallet of some kind and that you have currency sewn into your clothing. First, hand me the wallet."

My toolkit?

She reached an open hand toward him.

"I'll warn you once, McKie. If I get up and walk out of here you'll not live more than two minutes."

Every muscle quivering protest, he slipped the toolkit from its pocket, extended it.

"And I'll warn you, Jedrik: I'm the only person who can open this without being killed and the contents destroyed."

She accepted the toolkit, turned its flat substance over in her hands.

"Really?"

McKie had begun to interest her in a new way. He was less than she'd expected, yet more. Naive, of course, incredibly naive. But she'd already known that of the people from beyond the God Wall. It was the most suitable explanation. Something was profoundly wrong in the Dosadi situation. The people beyond the Veil would have to send their best here. This McKie was their best? Astonishing.

She arose, went to the door, rapped once.

McKie watched her pass the toolkit to someone outside, heard a low-voiced conversation, neither half of it intelligible. In a flashing moment of indecision, he'd consid-

ered trying for some of the toolkit's protective contents. Something in Jedrik's manner and the accumulation of unknowns all around had stopped him.

Jedrik returned to her seat empty-handed. She stared at him a moment, head cocked to once side, then:

"I'll say several things to you. In a way, this is a test. If you fail, I guarantee you'll not survive long on Dosadi. Understood?"

When McKie failed to respond, she pounded a fist on the table.

"Understood?"

"Say what you have to say."

"Very well. It's obvious to me that those who instructed you about Dosadi warned you not to reveal your true origin. Yet, most of those who've seen you and all of those who've talked to you for more than a few seconds suspect you're not one of us—not from Chu, not from the Rim, not from anywhere on Dosadi." Her voice took on a new harshness. "But I know it. Let me tell you, McKie, that there's not even a child among us who's failed to realize that the people imprisoned on Dosadi did not originate here!"

McKie stared at her, shocked.

Imprisoned.

As she spoke, he knew she was telling him the truth. Why hadn't Aritch or the others warned him? Why hadn't he seen this for himself? Since Dosadi was poison to both Human and Gowachin, rejected them, of course they'd know they hadn't originated here.

She gave him time to absorb this before continuing.

"There are others among us from your realm, perhaps some we've not

identified, better trained. But I was taught to act only on certainty. Of you I'm certain. You do not originate on Dosadi. I've put it to the question and I've the present confirmation of my own senses. You come from beyond the God Wall. Your actions with Bahrnk, with Adril, with me . . ." She shook her head sadly.

Aritch set me up for this!

This thought brought back a recurrent question which continued to nag McKie; BuSab's discovery of the Dosadi experiment. Were the Gowachin that clumsy? Would they make such slips? The original plan to conceal this project must have been extensive. Yet, key facts had leaked to BuSab agents. McKie felt overwrought from asking himself the same questions over and over without satisfaction. And now, Jedrik's pressures compounded the burden. The only suitable answer was that Aritch's people had done everything with the intent of putting him in this position. They'd deliberately leaked information about Dosadi. And McKie was their target.

To what purpose?

"Can we be overheard?" he asked.

"Not by my enemies on Dosadi."

He considered this. She'd left open the question of whether anyone from beyond the God Wall might eavesdrop. McKie pursed his lips with indecision. She'd taken his toolkit with such ridiculous ease . . . yet, what choice had he? They wouldn't get anything from the kit and someone out there, one of Jedrik's underlings, would die.

That could have a useful effect on Jedrik. He decided to play for time.

"There're many things I could tell you. So many things. I hardly know where to begin."

"Begin by telling me how you came through the God Wall."

Yes, he might be able to confuse her with a loose description of Calebans and jumpdoors. Nothing in her Dosadi experience could've prepared Jedrik for such phenomena. McKie took a deep breath. Before he could speak there was a rap on the door.

Jedrik raised a hand for silence, leaned over and opened the door. A skinny young man with large eyes beneath a high forehead and thin blonde hair slipped through, placed McKie's toolkit on the table in front of Jedrik.

"It wasn't very difficult," he said.

McKie stared at the kit in shock. It lay open with all of its contents displayed in perfect order.

Jedrik gestured the youth to the seat opposite her. She reached for a raygen.

McKie could no longer contain himself.

"Careful! That's dangerous!"

"Be still, McKie. You know nothing of danger."

She removed the stim, examined it, replaced it neatly, looked at the young man.

"All right, Stiggy. Tell me."

The youth began removing the items from the toolkit one by one, handling each with a knowledgeable correctness, speaking rapidly.

McKie tried hard to follow the conversation, but it was in a code he could not understand. The ex-

pressions on their faces were eloquent enough, however. They were elated. Whatever Stiggy was saying about the dangerous toys in McKie's toolkit, his revelations profited both of them.

The uncertainties which had begun during McKie's ride with Bahrack reached a new intensity. The feeling had built up in him like a sickness. He'd wondered for a time if he might be the victim of some new disease native to Dosadi. It could not be the planet's food because he'd eaten nothing yet. The realization came over him as he watched Jedrik and Stiggy that his reactions were his own reasoning system trying to reject something, some assumption or set of assumptions which he'd accepted without question. He tried to empty his mind, not asking any questions in particular. Let come into his awareness what may. It would all have a fresh appraisal.

Dosadi requires you to be coldly brutal in all of your decisions. No exceptions.

Well . . . he'd let go of the toolkit in the belief that someone would die trying to open it. But he'd issued a warning. That warning could've helped them. Probably did.

I must become exactly like them or I cannot survive . . . let alone succeed.

At last, McKie felt Aritch's fear of Dosadi, understood the Gowachin desperation. What a terrible training ground for the recognition and use of power!

Jedrik and Stiggy finished their coded conversation over the toolkit. Stiggy closed the kit, arose with it in one hand, speaking at last in

words that McKie understood.

"Yes, we must lose no time."

Stiggy left with the kit.

Jedrik faced McKie. The toolkit and its contents had helped answer the most obvious question about McKie and his kind. The people beyond the God Wall were the degenerate descendants of those who'd invented such devices. It was the only workable explanation. She felt almost sorry for this poor fool. But that was not a permissible emotion. He must be made to understand that he had no choice but to obey her.

"Now, McKie, you will answer all of my questions."

"Yes."

It was utter submission and she knew it.

"When you've satisfied me in all matters," she said, "then we'll eat and I'll take you to a place where you'll be reasonably safe."

* * *

The Family/Clan/Factions of the Rim are still responding to their defeat in the mass attempt on our defenses of last Decamo. They appear severely chastened. Small police actions are all that we need anticipate over the next planning period. Further, our operatives in the Rim find no current difficulties in steering the F/C/F toward a natural and acceptable cultural rejection of economic developments which might lead them to improved food production.

— From a Dosadi Bureau of Control document

An angry Broey, full out and uninhibited anger, was something to see and quite a number of his Gowachin aides had seen this emotional display during the night. It was now barely dawn. Broey had not slept in two days; but the fourth group of his aides stood before him in the sanctum to receive the full spate of his displeasure. The word had already gone out through their ranks and they, like the others, did not try to hide their fear or their anxious eagerness to restore themselves in Broey's good graces.

Broey stood near the end of the long table where, earlier, he had met with Gar and Tria. The only visible sign of his long sleepless hours was a slight pitting of the fatty nodes between his ventricles. His eyes were as sharp as ever and his voice had lost none of its bite.

"What I'd like explained is how this could happen without a word of warning. And it's not just that we failed to detect this, but that we continued to grind out complacent reports, reports which went exactly contrary to what actually was happening."

The aides massed at the other end of the table, all standing, all fidgeting, were not assuaged by Broey's use of "we." THEY heard him clearly. He was saying: "You! You! You!"

"I will be satisfied by nothing less than an informant," Broey said. "I want a Human informant, either from Chu or from the Rim. I don't care how you get this informant. We must find that store of city food. We must find where they have started their blasphemous Rim city."

One of his aides, a slender young Gowachin in the front rank, ventured a cautious question which had been repeated several times by other chastened aides during the night.

"If we move too strongly against Humans in the Warrens won't that feed the unrest that . . ."

"We'll have more riots, more turning of Gowachin against Human and Human against Gowachin," Broey agreed. "That's a consequence we are prepared to accept."

This time they understood that Broey used the royal "we." Broey would accept the consequences. Some of his aides, however, were not ready to accept a war between the species within the city's walls. One of the aides farther back in the ranks raised an arm.

"Perhaps we should use only Human troops in the Warrens. If we . . ."

"Who would that fool?" Broey demanded. "We have taken the proper steps to maintain our hold on Chu. You have one task and one task only: find that store of food and those hidden factories. Unless we find them we're finished. Now, get out of here. I don't want to see any of you until you can report success!"

They filed out silently.

Broey stood looking down at the blank screen of his communicator. Alone at last, he allowed his shoulder to slump, breathed heavily through both mouth and ventricles.

What a mess! What a terrible mess.

He knew in his node of nodes that he was behaving precisely as Jedrik wanted him to behave. She had left him no alternatives. He

could only admire her handling of the situation while he waited for the opening which he knew must come. But what a magnificent intellect operated in that Human head. And a female at that! Gowachin females never developed such qualities. Only on the Rim were Gowachin females used as other than breeders. Human females, on the other hand, never ceased to amaze him. This Jedrik possessed real leadership qualities. Whether she was the one to take over the Electorship remained to be seen.

Broey found himself recalling those first moments of terrible awareness in the Graluz. Yes, this was the way of the world. If one chose the survivors by other than a terrible testing process, all would die. It would be the end of both species. At least, it would be the end of them on Dosadi and only Dosadi mattered.

He felt bereft, though. He felt betrayed by his God. Why had God failed to warn him? And when questioned, how could God respond that only evil could penetrate the mind of a fanatic? Wasn't God omnipotent? Could any awareness be closed to God? How could God be God then?

I am your God!

He could never forget that voiceless voice reverberating in his head.

Was that a lie?

We are plagued by a corrupt polity which promotes unlawful and/or immoral behavior. Public interest has no practical significance in everyday behavior

DOSADI EXPERIMENT

among the ruling factions. The real problems of our world are not being confronted by those in power. In the guise of public service, they use whatever comes to hand for personal gain. They are insane with and for power.

— From a clandestine document
circulated on Dosadi

It was dark when a disguised Jedrik and undisguised McKie emerged onto the streets. She led them down narrow passages, her mind full of things McKie had revealed. Jedrik wore a blonde wig and puff-out disguise which made her appear heavy and hunched.

As they passed an open courtyard, McKie heard music. He almost stumbled. The music came from a small orchestra—delicate tympany, soft strings and a rich chorus of wind instruments. He did not recognize the melody, but it moved him more deeply than any other music of his experience. It was as though the music were played only for him. Aritch and company had said nothing about such magnificent music here.

People still thronged the streets in numbers which astonished him. But now they appeared to pay him little notice.

Jedrik kept part of her attention on McKie, noting the fools with their musical dalliance, noting how few people there were on the streets—little more than her own patrols in this quarter. She'd expected that, but the actuality held an eerie mood in the dim and scattered illumination from lighted corners.

She had debated providing McKie with a crude disguise, but he obviously didn't have the cunning to carry off the double deception she required. She'd begun to sense a real intelligence in him, though. McKie was an enigma. Why had he never encountered the opportunities to sharpen that intelligence? Sensing the sharpness in him, she could not put off the thought that she had missed something vital in his accounts of that social entity which he called the ConSentiency. Whether this failure came from actual concealment by McKie or through his inadequacies she was not yet willing to judge. The enigma set her on edge. And the mood in the streets did nothing to ease her emotions. She was glad when they crossed the line into the area completely controlled by her own personal cell.

The bait having been trailed through the streets by one who would appear a tame underling, Jedrik allowed herself a slight relaxation. Broey would have learned by this time about the killing of Tria's double agent. He would react to that and to the new bait. It was almost time for phase two of her design for Broey.

McKie followed her without question, acutely aware of every strange glance cast their way. He was emptied of all resistance, knowing he could not survive if he failed to follow Jedrik through the smelly repellant darkness of her streets.

The food from the restaurant sat heavily in his stomach. It had been tasty: a stew of odd shapes of shredded greenery, and steaming hot. But he could not shake the realization that his stew had been

compounded of someone's garbage.

Jedrik had left him very little. She hadn't learned of the Taprisiot or the bead in his stomach which might (or might not) link him to the powers of the ConSentiency if he died. She had not learned of the standard BuSab implantation devices which amplified his senses. And, oddly, she had not explored many of his revelations about BuSab. She'd seemed much more interested in the money hidden about his person and had taken possession of all of it. She'd examined the currency carefully.

"This is real."

He wasn't sure but he thought she'd been surprised.

"This was given to you *before* you were sent to Dosadi?"

"Yes."

She was a while absorbing the implications, but appeared satisfied. She'd given him a few small currency tokens from her own pockets.

"Nobody'll bother you for these. If you need anything, ask. We may be able to gratify some of your needs."

It was still dark, lighted only by illumination at corners, when they came to the address Jedrik sought. Grey light suffused the street. A young Human male of about ten squatted with his back against the stone wall at the building's corner. As Jedrik and McKie approached, he sprang up, alert. He nodded once to Jedrik.

She did not acknowledge, but by some hidden signal the boy knew she had received his message. He relaxed once more against the wall.

When McKie looked back a few

paces beyond where the boy had signalled, he was gone. No sound, no sign . . . just gone.

Jedrik stopped at a shadowed entryway. It was barred by an openwork metal gate flanked by two armed guards. The guards opened the gate without words. Beyond the gate there was a large covered courtyard illuminated by glowing tubes on right and left. Three of its sides were piled to the courtyard cover with boxes of various sizes—some taller than a Human and narrow; others short and fat. Set into the stacks as though part of the courtyard's walls was one narrow passage leading to a metal door opposite the gateway.

McKie touched Jedrik's arm.

"What's in the boxes?"

"Weapons." She spoke as though to a cretin.

The metal door was opened from within. Jedrik led McKie into a large room at least two stories tall. The door clanged shut behind them. McKie sensed several Humans along the courtyard wall on both sides of him but his attention had been captured by something else.

Dominating the room was a gigantic cage suspended from the ceiling. Its bars sparkled and shimmered with hidden energies. A single Gowachin male sat cross-legged in a hammock at the cage's center. McKie had seldom seen a ConSentient Gowachin that aged. His nose crest was fringed by flaking yellow crusts. Heavy wrinkles wormed their way beneath watery eyes beginning to glaze with the degeneration which often blinded Gowachin who lived too long away from water. His body had a slack appear-

ance with loose muscles and pitted indentations along the nodes between his ventricles. The hammock suspended him off the cage floor and that floor shimmered with volatile energies.

Jedrik paused, divided her attention between McKie and the old Gowachin. She seemed to expect a particular reaction from McKie, but he wasn't certain she found what she sought.

McKie stood a moment in silent examination of the Gowachin. Prisoner? What was the significance of that cage and its shimmering energies? Presently, he glanced around the room, recording the space. Six armed Human males flanked the door through which he and Jedrik had entered. A remarkable assortment of objects crammed the room's walls, some with purpose unknown to him but many recognizable as weapons: spears and swords, flame-throwers, garrish armor, bombs, pellet projectors. . .

Jedrik moved a pace closer to the cage. The occupant stared back at her with faint interest. She cleared her throat.

"Greetings, Pcharky. I have found my key to the God Wall."

The old Gowachin remained silent, but McKie thought he saw a sparkle of interest in the glazed eyes.

Jedrik shook her head slowly, then: "I have a new datum, Pcharky. The Veil of Heaven was created by creatures called Calebans. They appear to us as suns."

Pcharky's glance flickered to McKie, back to Jedrik. The Gowachin knew the source of her new datum.

McKie renewed his speculations about the old Gowachin. That cage must be a prison, its walls enforced by dangerous energies. Bahrank had spoken of conflict between the species. Humans controlled this room. Why did they imprison a Gowachin? Or... was this caged Gowachin, this Pcharky, another agent from Tandaloor? With a tightening of his throat, McKie wondered if his own fate might be to live out his days in such a cage.

Pcharky grunted, then:

"The God Wall is like this cage but more powerful."

His voice was a husky croaking, the words clear Galach with an obvious Tandaloor accent. McKie, his fears reinforced, glanced at Jedrik, found her studying him. She spoke.

"Pcharky has been with us for a long time, very long. There's no telling how many people he has helped to escape from Dosadi. Soon, I may persuade him to be of service to me."

McKie found himself shocked to silence by the possibilities glimpsed through her words. Was Dosadi in fact an investigation of the Caleban mystery? Was that the secret Aritch's people concealed here? McKie stared at the shimmering bars of Pcharky's cage. Like the God Wall? But the God Wall was enforced by a Caleban.

Once more, Jedrik looked at the caged Gowachin.

"A sun confines enormous energies, Pcharky. Are your energies inadequate?"

But Pcharky's attention was on McKie. The old voice croaked.

"Human, tell me: Did you come here willingly?"

"Don't answer him," Jedrik snapped.

Pcharky closed his eyes. Interview ended.

Jedrik, accepting this, whirled and strode to the left around the cage.

"Come along, McKie." She didn't look back, but continued speaking. "Does it interest you that Pcharky designed his own cage?"

"He designed it? Is it a prison?"

"Yes."

"If he designed it... how does it hold him?"

"He knew he'd have to serve my purposes were he to remain alive."

She had come to another door which opened onto a narrow stairway. It climbed to the left around the cage room. They emerged into a long hallway lined with narrow doors dimly lighted by tiny overhead bulbs. Jedrik opened one of these doors and led the way into a carpeted room about four meters wide and six long. Dark wood panels reached from floor to waist level, shelves loaded with books above. McKie peered closely: books... actual paper books. He tried to recall where he'd ever before seen such a collection of primitive... But, of course, these were not primitive. These were one of Dosadi's strange recapitulations.

Jedrik had removed her wig, stopped midway in the room to turn and face McKie.

"This is my room. Toilet there." She pointed to an opening between shelves. "That window..." Again, she pointed, this time to an opening opposite the toilet door. "... is one-way to admit light and it's our best. As Dosadi measures

such things, this is a relatively secure place."

He swept his gaze around the room.

Her room?

McKie was struck by the amount of living space, a mark of power on Dosadi. . . the absence of people in the hall. By the standards of this planet, Jedrik's room, this building, represented a citadel of power.

Jedrik spoke, an odd note of nervousness in voice and manner.

"Until recently, I also had other quarters—a prestigious apartment on the slopes of the Council Hills. I was considered a climber with excellent prospects, my own skitter and driver. I had access to all but the highest codes in the master banks, and that's a powerful tool for those who can use it. Now. . ." She gestured. ". . . this is what I have chosen. I must eat swill with the lowest. No males of rank will pay the slightest attention to me. Broey thinks I'm cowering somewhere, a pallet in the Warrens. But I have this. . ." Again, that sweeping gesture. ". . . and this." One finger tapped her head. "I need nothing more to bring those Council Hills crashing down."

She stared into McKie's eyes.

He found himself believing her.

She was not through speaking.

"You're definitely male Human, McKie."

He didn't know what to make of that, but her air of braggadocio fascinated him.

"How did you lose that other. . ."

"I didn't lose it. I threw it away. I no longer needed it. I've made things move faster than our precious

Elector, or even your people, can anticipate. Broey thinks to wait for an opening against me?" She shook her head.

Captivated, McKie watched her cross to the window, open a ventilator above it. She kicked a wooden knob below the adjoining bookshelves, pulled out a section of panelling which trailed a double bed. Standing across the bed from McKie, she began to undress. She dropped the wig to the floor, slipped off the coveralls, peeled the bulging inner disguise from her flesh. Her skin was pale cream.

"McKie, I am your teacher."

He remained silent. She was long-waisted, slim and graceful. The creamy skin was marked by two faint scars to the left of the pubic wedge.

"Take off your clothes," she said.

He swallowed.

She shook her head.

"McKie, McKie, to survive here you must become Dosadi. You don't have much time. Get your clothes off."

Not knowing what to expect, McKie obeyed.

She watched him carefully.

"Your skin is lighter than I expected where the sun has not darkened you. We will bleach the skin of your face and hands tomorrow."

McKie looked at his hands, at the sharp line where his cuffs had protected his arms. Dark skin. He recalled Bahrnk talking of dark skin and a place called Pylash Gate. To mask the unusual shyness he felt, he looked at Jedrik, asked about Pylash Gate.

"So Bahrank mentioned that? Well, it was a stupid mistake. The Rim sent in shock troops and foolish orders were given for the gate's defenses. Only one troop survived there, all dark skinned like you. The suspicion of treachery was natural."

"Oh."

He found his attention compelled toward the bed. A dark maroon spread covered it.

Jedrik approached him around the foot of the bed. She stopped less than a handwidth away from him . . . creamy flesh, full breasts. He looked up into her eyes. She stood half a head over him, an expression of cold amusement on her face.

McKie found the musky smell of her erotically stimulating. She looked down, saw this, laughed and abruptly hurled him onto the bed. She landed with him and her body was all over him, hot and hard and demanding.

It was the strangest sexual experience of McKie's life. Not love-making, but violent attack. She groaned, bit at him, clawed. And when he tried to caress her, she became even more violent, frenzied. Through it all, she was oddly careful of his pleasure, watching his reactions, reading him. When it was over, he lay back, spent. Jedrik sat up on the edge of the bed. The blankets were a twisted mess. She grabbed a blanket, threw it across the room, stood up, whirled back to look down at him.

"You are very sly and tricky, McKie."

He drew in a trembling breath, remained silent.

"You tried to catch me with softness," she accused. "Better than you have tried that with me. It will not work."

McKie marshalled the energy to sit up and restore some order to the bed. His shoulder pained him where she'd scratched. He felt the ache of a bite on his neck. He crawled into the bed, pulled the blankets up to his chin. She was a madwoman, absolutely mad. Insane.

Presently, Jedrik stopped looking at him. She recovered the blanket from across the room, spread it on the bed, joined him. He was acutely conscious of her staring at him with an openly puzzled frown.

"Tell me about the relationships between men and women on your worlds."

He recounted a few of the love stories he knew, fighting all the while to stay awake. It was difficult to stifle the gaping yawns. She kept punching his shoulder.

"I don't believe it. You're making this up."

"No . . . no. It's true."

"You have women of your own there?"

"Women of my . . . Well, it's not like that, not ownership . . . ahhh, not possession."

"What about children?"

"What about them?"

"How're they treated, educated?"

He sighed, sketched in some details from his own childhood.

After a while she let him go to sleep. He awakened several times during the night, conscious of the strange room and bed, of Jedrik breathing softly beside him. Once, he thought he felt her shoulders

shaking with repressed sobs.

Shortly before dawn there was a scream in the next block, a terrifying sound of agony loud enough to waken all but the most hardened or the most fatigued. McKie, awake and thinking, felt Jedrik's breathing change. He lay tense and watchful, awaiting a repetition or another sound which might explain that eerie scream. A threatening silence gripped the night. McKie built an image in his mind of what could be happening in the buildings around them: some people starting from sleep not knowing (perhaps not caring) what had awakened them; lighter sleepers grumbling and sinking back into restless slumber.

Finally, McKie sat up, peered into the room's shadows. His disquiet communicated itself to Jedrik. She rolled over, looked up at him in the pale dawn light now creeping into the shadows.

"There are many noises in the Warrens that you learn to ignore."

Coming from her, it was almost conciliatory, almost a gesture of apology, of friendship.

"Someone screamed," he said.

"I knew it must be something like that."

"How can you sleep through such a sound?"

"I didn't."

"But how can you ignore it?"

"The sounds you ignore are those which aren't immediately threatening to you . . . those which you can do nothing about."

"Someone was hurt."

"Very likely. But you must not burden your soul with things you cannot change."

"Don't you want to change . . . that?"

"I am changing it."

Her tone, her attitude were those of a lecturer in a schoolroom and now there was no doubt that she was being deliberately helpful. Well, she'd said she was his teacher. And he must become completely Dosadi to survive.

"How're you changing things?"

"You're not capable of understanding yet. I want you to take it one step at a time, one lesson at a time."

He couldn't help asking himself then:

What does she want from me now?

He hoped it was not more sex.

"Today," she said, "I want you to meet the parents of three children who work in our cell."

* * *

If you think of yourselves as helpless and ineffectual, it is certain that you will create a despotic government to be your master. The wise despot, therefore, maintains among his subjects a popular sense that they are helpless and ineffectual.

— The Dosadi Lesson:
A Gowachin Assessment

Aritch studied Ceylang carefully in the soft light of his green-walled relaxation room. She had come down immediately after the evening meal, responsive to his summons. They both knew the reason for that summons: to discuss the most recent

report concerning McKie's behavior on Dosadi.

The old Gowachin waited for Ceylang to seat herself, observing how she pulled the red robe neatly about her lower extremities. Her features appeared composed, the fighting mandibles relaxed in their folds. She seemed altogether a figure of secure competence, a Wreave of the ruling classes . . . not that Wreaves recognized such classes. It disturbed Aritch that Wreaves tested for survival only through a complex understanding of sentient behavior, rigid performance standards based on ancient ritual whose actual origins could only be guessed; there was no written record.

But that's why we chose her.

Aritch grunted, then:

"What can you say about the report?"

"McKie learns rapidly."

Her spoken Galach had a faint sibilance.

Aritch nodded:

"I would say rather that he *adapts* rapidly. It's why we chose him."

"I've heard you say he's more Gowachin than the Gowachin."

"I expect him soon to be more Dosadi than the Dosadi."

"If he survives."

"There's that, yes. Do you still hate him?"

"I have never hated him. You do not understand the spectrum of Wreave emotions."

"Enlighten me."

"He has violated my essential pride of self. This requires a specific reaction in kind. Hate would only dull my abilities."

"But *I* was the one who gave you the orders which had to be countermanded."

"My oath of service to the Gowachin contains a specific injunction, that I cannot hold anyone of my teachers responsible for either understanding or obeying the Wreave protocols of courtesy. It is the same injunction which frees us to serve McKie's Bureau."

"You do not consider McKie one of your teachers?"

She studied him for a moment, then:

"Not only do I exclude him, but I know him to be one who has learned much about our protocols."

Aritch studied her.

"What if I were to say he is one of your teachers?"

Again, she stared at him.

"I would revise my estimations of him . . . and of you."

Aritch took a deep breath.

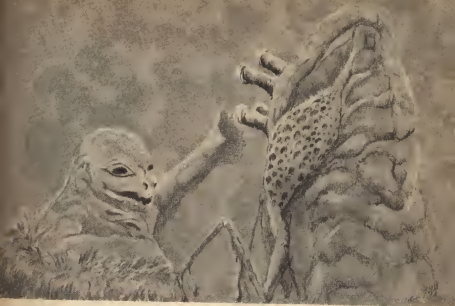
"Yet, you must learn McKie as though you lived in his skin. Otherwise, you will fail us."

"I will not fail you. I know the reasons you chose me. Even McKie will know in time. He dares not spill my blood in the courtarena or even subject me to public shame. Were he to do either of these things, half the Wreave universe would go hunting him with death in their mandibles."

Aritch shook his head slowly from side to side.

"Ceylang! Didn't you hear him warn you that you must shed your Wreave skin?"

She was a long time responding and he noted the subtle characteristics which he'd been told were the Wreave adjustments to anger—a



twitching of the jowls, tension in the pedal bifurcations . . .

Presently, she said:

"Tell me what that means, Teacher."

"You will be charged with performing under *Gowachin* Law, performing as though you were another McKie. He adapts! Haven't you observed this? He is capable of defeating you . . . and us in such a way, *in such a way* that your Wreave universe would shower him with adulation for his victory. That cannot be permitted. Too much is at stake."

Ceylang trembled and showed other signs of distress.

"But I am Wreave!"

"If it comes to the Courtarena, you no longer can be Wreave."

She inhaled several shallow breaths, composed herself.

"If I become too much McKie aren't you afraid I might hesitate to slay him?"

"McKie would not hesitate."

She considered this.

"Then there's only one reason you chose me for this task."

He waited for her to say it.

"Because we Wreaves are the best in the universe at learning the behavior of others—both overt and covert."

"And you dare not rely on any supposed inhibitions he may or may not have!"

After a long pause, she said:

"You are a better teacher than I'd suspected. Perhaps you're even better than you suspected."

TO BE CONTINUED

★ ★ ★

science
fact:

A Step Farther Out

Jerry Pournelle, PhD

WE INTERRUPT THIS PROGRAM

DID CALIFORNIA DISCOVER Europe? Will fusion power be used in the Light Water Reactor fission system? Whatever happened to super-heavy elements?

I know, I know. Last month I promised a column on how to become a space colonist. That column will be duly written, but we interrupt the regularly scheduled program for a special bulletin—mostly because I forgot to look at my calendar before I wrote last month's column.

You see, every year the Council for the Advancement of Science Writing puts on a week-long series of briefings. This year's was different in that the National Association of Science Writers received a generous grant from the Upjohn Company to let them bring in writers who might not otherwise attend, and the NASW for unfathomable reasons thought it would be a Good

Thing to have me come down and deliver my thoughts on creative techniques in science writing. I doubt my contribution to the program was of much use; certainly I learned more from my colleagues than I gave them. But the bottom line is that for a week I was in Galveston, Texas, in company with the top science writers of the US listening to a series of background briefings on subjects ranging from Dr. Jonas Salk on influenza vaccination to Berkeley's Albert Ghiorso on super-heavy elements. Thus I didn't have time to do the research for the scheduled column.

Besides, what's the hurry? Jimmy Carter's very first act was to rework the upcoming federal budget to stretch out the Shuttle program for at least two more years before first flight, so it will be at least that much longer before they'll be needing American space colonists.

Until very recently we thought we understood the genesis of man: African origin, long period of evolution from ape to proto-man to Neanderthal Man; then, about 32,000 years ago Cro-Magnan Man appeared in Europe, quickly displacing his Neanderthal cousins. Cro-Magnan or modern man then spread across the globe, and simultaneously differentiated into races. Some 11,000 years ago mongoloid hunters crossed the land bridge from Asia to North America, and 500 years ago came the Europeans and Africans; and here we are.

It may not be that way at all.

Dr. C. Ranier Berger, Professor of Anthropology, Geography, and Geophysics at UCLA, reports recent archeological finds that cast doubt on the Cro-Magnan aspects of this sequence, while Dr. George Todaro, who holds the unlikely (for making anthropological discoveries) position of Chief of the Laboratory of Viral Carcinogenesis, National Cancer Institute, has evidence that mankind evolved first in Asia, not Africa. All rather disturbing, and if any of my readers are looking for a field in which to make really startling contributions, I suggest a career in anthropology. The whole subject is due for a radical and fundamental restructuring. We really don't know very much about man's pre-history.

First, let's look at Dr. Berger and the North American Indians. You

can pick up mammoth bones all over Southern California, some of them 50,000 years old and more, and anthropologists have often suspected that a few of these mammoth bones are from beasts that died violent deaths at the hands of persons unknown; but until recently there was no real evidence of this.

Out on Santa Rosa Island, a privately owned ranch that was once connected to the mainland, one finds both mammoth bones and what can only be hearths. The bones are burnt, and were fairly obviously cooked for someone's dinner. Recent finds make that virtually certain—and radiocarbon dating shows that both bones and hearths are more than 40,000 years old. The people associated with them are mongoloid and thus definitely modern man. So it appears the earliest evidence of what we call Cro-Magnon Man is now found, of all places, in California, leading naturally to the question, did the New World populate the Old?

Alas, though, that's not certain. What we have are some undatable chunks of human bone which seem to be of the same strata and age as the cooked mammoths; stone tools and cooking hearths definitely more than 40,000 years old, but not the two together—yet. It would be very nice indeed if we could find their burial grounds; some remains of those Paleolithic hunters who slew wooly mammoths on Santa Rosa Island 40,000 years ago.

All right: modern man was in the New World well before we thought he ought to be. So what? Well, the problem is, how did he get here? The Asian land bridge across the Bering Straits opens and closes periodically with the advance and retreat of the glaciers during Ice Ages, and is the only really credible route, unless you credit the Eskimo with a far older culture and water-faring technology than anyone ever has dreamed of. Which of those temporary periods brought men from Asia to North America? There have never been any Neanderthal remains found over here. None at all. And at the moment the oldest remains of Modern Man we know of seem to be associated with California. Very interesting.

Now back to viral cancer and human evolution. Pick one: viruses cause cancer; are caused by cancer; prevent cancer. Indeed, each of those statements is true under certain circumstances, and actually it's more confusing than that: certain viruses certainly cause cancers, but those same infectious viruses are actually generated, *created*, by healthy animals who are themselves more or less immune to that kind of viral cancer. The theory is that these animals have evolved the cancer-virus-creating mechanism as protection—a kind of self-vaccination process. That kind of evolution takes a long time.

The worst offender is the baboon, some species of which con-

stantly contaminate their environment with cancer virus. Fairly obviously any animal susceptible to that form of viral cancer has great incentive to evolve protective mechanisms; certainly a species that's immune to baboon viral cancer has a better chance of survival.

Now of the Great Apes, the gorilla and chimpanzee are the most closely related to man. This is not in dispute on scientific grounds except as part of a general attack on the whole evolutionary hypothesis mounted mostly by religious authorities. (The Catholic and most Orthodox churches have long ago come to accommodation with evolution but many Protestant sects continue to oppose the theory—and some of their spokesmen have excellent scientific credentials; no, I don't care to get into that discussion here.) If, though, you accept that man, the gorilla, and the chimpanzee all had a common ancestor, as most evolutionary theorists do, the viral evidence becomes important: because the chimps and gorillas, alone of the Great Apes, have evolved defenses against African baboon viral cancer. Neither man, nor the gibbons, nor the orangutans have done so.

Baboon virus is infectious to man, New World monkeys, and Asian apes. Incidentally, the common house cat has also come to terms with baboon virus, but not totally, arguing that the cats reached

Africa well before man, but not as long ago as gorillas and chimpanzees.

Dr. Todaro's conclusion is that somewhere after man, the gorilla, and the chimpanzee differentiated—say 12 million years ago—gorilla and chimpanzee ancestors made their way to Africa and stayed there. Man did not, but must have spent nearly the whole of the Pliocene Era, all that time until perhaps a million years ago, in Asia. The data, he says, "suggest that . . . the older Australopithecines found in Africa, though clearly hominids, were probably, therefore, not in the main lineage to man, but rather, unsuccessful offshoots whose progeny have not endured to the present." (Beneviste and Todaro, "Evolution of type C viral genes," *Nature* Vol. 261:101, 13 May 1976.)

Which brings us back to my earlier statement, that if you're looking for a field that needs some really new contributions, anthropology is ready for a new genius.

* * *

So much for anthropology; now for something practical like energy. There were two speakers, Dr. Robert Thresher of Oregon State University who is part of an ERDA project on wind energy, and Dr. Moshe Lubin of the University of Rochester on fusion.

There's not much new data on

wind—or far too much: that is, there is no startling new information, only a very great number of studies and experiments designed to inch our way forward to a time when wind might provide as much as 5% of our national electric power; and while 5% is respectable and very much worth working on, it's not going to change the world.

The largest windmill ever built was a 1.25 megaWatt machine on Grandapa's Knob in Vermont. It was called the Smith-Putnam machine, it worked in the 40's, and it was a failure: it couldn't compete economically with coal, and eventually suffered a catastrophic accident. (Windpower experts study "loss of blade accidents" the same way that nuclear engineers study loss of coolant accidents in fission plants.)

There was once a 200 kiloWatt machine working on the city island of Gentzer in Denmark; at present that mill is tethered, but the Danes are thinking of refurbishing it. What's important are the numbers: a modern electric plant generates something like 1000 megaWatts; the biggest windmill ever made was 1.25 megaWatts; and ERDA's big new experimental windmill, the Mod Zero constructed near Cleveland to study stresses and strains of putting all that much metal up in the sky, is a 100 kiloWatt device. It takes a lot of windmills to make significant amounts of power, which isn't to say that windmills won't be useful, particularly in remote windy

places far from other fuel sources.

Fusion, on the other hand, is generating a bit more excitement. You'll recall from previous columns that fusion has had its ups and downs: a few years ago, everyone thought it was the new hope of the future. Last year at the AAAS meeting you could cut the gloom with a knife. The present mood, according to Dr. Lubin (whose work at Rochester is in Laser fusion) is one of controlled optimism.

First, nobody has changed their mind: fusion will not produce direct on-line power in significant amounts before the years 2010 to 2020, exactly as I've reported previously.

Secondly, the national energy plan still calls for about 50% of US baseload electric power to come from nuclear *fission* by 1990; and thirdly, present uranium reserves cannot sustain nuclear fission power at that rate of consumption for more than forty years.

That's the energy dilemma: we *need* nuclear power. If you think strip mines are bad now, wait until 1995 without nuclear, when there will be enormous freight trains running about the country carrying nothing but coal; coal-slurry pipelines will cross the deserts and rivers and wild places; black-lung compensation payments will be in the tens of billions of dollars a year. The precipitated flyash and other waste products will accumulate in *billions of tons*, and must be disposed of somehow, and even then millions of

tons of pollutants will get into the atmosphere even with the best cleanup technology. We need nuclear power, which is to say fission power (the only kind we've got) to get to the end of the century; but the nuclear power fuels can't last very long after that.

Two ways to go. One is to make more nuclear fuel, which is to say breeders. I used to be a big enthusiast for the fast breeder, and I'm still willing to argue the case for them; after all, breeder technology, which we invented, is now in use in England, France, and the Soviet Union although we've yet to build a commercial demonstration plant. However, the breeder has its problems. Plutonium is nasty stuff. The nuclear fuel cycle has vulnerable points in it, times when terrorists might be able to get their hands on weapons-grade plutonium, or at least manage to get something that could be chemically refined into a weapon. Nobody, deep down in his heart, loves plutonium (but nobody really loves blacklung and other coal side effects either, even though we put up with them).

What would be really marvelous would be a system that lets us invest in conventional Light Water Reactors (LWR's), a proven technology that we've got on the shelf, and operate them without nuclear fuel reprocessing. It turns out there may be two ways to do this.

One is the "slow breeder";

Thorium, a relatively plentiful element, can be bred into U-233, which can then fuel conventional reactors. That's relatively expensive power compared to burning natural uranium, but it has the advantage of being a nearly eternal source of energy. Alas, it also requires a new technology, including mining and refining techniques, and it doesn't do anything with the truly monstrous amounts of uranium we've already mined.

There is enough U-238 around in mine tailings, stockpiles, etc., to last the world at least a thousand years. U-238 won't fission, though, and has to be bombarded with neutrons to turn it into plutonium—and we've already discussed that. Nobody wants all that plutonium.

But suppose we could make the plutonium safe? Paradoxically, the best way to do that might be to make it more dangerous. That is, nobody in his right mind is going to try to steal spent fuel elements. "Used" fuel rods contain not only long-lived plutonium, but also various fission products, which are short-lived and thus very radioactive. You don't want to get close to them, and if you have the technology to work with things like that, you don't need to steal your fissionables: it takes something with the resources of a wealthy government to be able to make useful weapons out of spent fuel rods. The dangerous part of the nuclear fuel cycle comes when the plutonium has been

extracted and is lying about by itself; that can be handled with only moderate care.

So now comes the point. Fusion power systems produce neutrons. (For a lot more on this subject, see this column, "Fusion Without Ex-lax," *Galaxy* October 1976.) When neutrons interact with U-238, they turn it into plutonium which can be used to power an ordinary LWR. Suppose we took spent fuel elements, left them in the sealed rods, and inserted them into a "recharging" system? Can we do that?

According to Dr. Lubin, we can.

The current status of fusion research is summarized in Table One. You can see there are some problems, but we're moving toward getting useful power from fusion devices. However, as we pointed out here back in the October column, once you have achieved fusion you still do not have a useful power plant. What you've got is a lot of fast neutrons; they still must be caught and their energy extracted. You've still got to build turbines and generators or a big MHD (magneto-hydro-dynamics and don't worry about it) tunnel, or some other very massive and very costly system for taking neutron energy and turning it into electricity. That can be a very large problem, although it hasn't been emphasized much by fusion enthusiasts.

But—fusion makes neutrons. Neutrons are what's needed to "recharge" spent fuel elements. Spent

THE CURRENT STATUS OF INERTIAL CONFINEMENT FUSION RESEARCH

Kind of Reaction	Power (10^{12} Watt)		Efficiency	
	Obtained	Required	Obtained	Required
<i>Lasers</i>				
Solid State	3-5	30-50	0.3%	0.5%
Gaseous	0.3	200	0.5	0.5-5.0
<i>Charged Particles</i>				
Electrons	0.5	400	20%	10%
Ions	—	600	10%	?
Neutrals	—	?	—	?

10^{12} Watts = 1 terraWatt or TW.

Inertial confinement: pellets of Deuterated polyethylene about 100 microns in diameter (1 micron = 1/25,000 inches) are bombarded with particles; see this column, October, 1976 for further details.

fuel elements, whether "recharged" or not, are so dangerous that they're safe: that is, they can be shipped about in huge containers stressed to withstand hundreds of g's, and nobody is going to open one of those things. With "recharging" there is never a point in the fuel cycle where weapons-grade material exists; the Pu concentration in a "recharged" fuel element will be around 5% of the oxide (while weapons-grade is about 90% enriched metallic) so that even if a

demented terrorist group stole the fuel elements they'd be useless. (Oh, sure, they'd be dangerous, but so would the equivalent weight of TNT or plastique.)

At any rate, the concept is fascinating, and provides one bit of evidence for my basic thesis: that we are not doomed, the Club of Rome is wrong, and mankind has a very good chance at "Survival With Style."

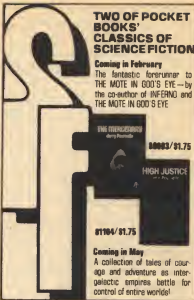
* * *

Now, in keeping with the title of this column, let's get far out.

In Blish's classic "Cities in Space" series one basic element was "anti-agathic" drugs: a pharmacology that cures death by reversing the effects of aging. Now in principle such things are surely possible: certainly it must be possible to take a human being at some arbitrary stage of development and stimulate continuous regeneration so the system never "wears out." "In principle" is not practice, though; nobody knows how to do this.

However, Dr. Allan Goldstein of the University of Texas Medical Branch, Galveston, may well have taken several giant steps down that road. Dr. Goldstein, with Dr. Abraham White at Albert Einstein University, some years ago began work on immunological deficiencies in humans. All our textbooks tell us that the thymus gland, that lump on the breastbone, has largely degenerated by about age 40 to 50. The older textbooks say the function of the gland is unknown; bolder spirits even asserted that it was useless, something like a vermiform appendix. That turns out not to be the case.

Human beings have two periods of severe danger: in childhood, before the immune system develops; and in old age, when the immune system deteriorates. In both those times we are vulnerable to various cancers, infectious diseases, and auto-immune disorders. Next, let us



TWO OF POCKET BOOKS' CLASSICS OF SCIENCE FICTION

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P. D. James
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Coming in May
A collection of tales of courage and adventure as intergalactic empires battle for control of entire worlds!

plot the levels of thymosin in the blood at various ages. (Thymosin is one of the secretions of the thymus gland.)

The results are interesting: as the thymus gland vanishes (until at age 40 only about 10% remains, and at age 80 it is virtually gone), the thymosin level falls, and our susceptibility to diseases associated with aging—the very ones that were so dangerous to us in childhood before the immune system developed—mounts rapidly.

Dr. Goldstein has used thymosin to treat children with immune-system deficiencies. The results have been dramatic. Not many studies have been done; although several children were selected for

this treatment, most died before the FDA gave permission for this very new drug to be used in humans.

The obvious next step is to try thymosin in persons age 40 and above, bringing the level up to what it was when they were 20 or so. That may take a while: it is estimated that it would cost \$30 million in studies to get aspirin approved by the FDA today, even given what we already know about it; I wouldn't care to estimate what the costs of getting thymosin approved might be.

However, Dr. Goldstein has pretty well proved that the thymus gland is the "master gland" of the immune system, and that treatments with thymosin have been very useful for very young children with immunity disorders; that thymosin stimulates the development of certain cells, called "T-cells," which control phagocyte (white blood cell) cancer control activity. T-cells somehow detect cancerous mutations and secrete a substance that brings phagocytes to the area; the phagocytes then proceed to eat up the cancer cells before they can multiply. Dr. Goldstein is emphatic in stating that thymosin is not the "magic bullet" for curing old age—but he strongly suspects that it can be useful in letting one age gracefully, without many of the pains and ailments so common in those over sixty.

He's also rather excited about all the developments in biochemistry

and immunology. We are on the threshold of a new era in medicine. Understanding the immune systems will of course make transplant technology much more reliable; may provide the key to cancer, and almost certainly will help keep patients alive long enough for other cancer treatments to be effective; and may well be the means for all of us to stay alive gracefully at least to the biblical three score and ten.

I have always had the view (not original with me) that the human organism is designed to self-destruct shortly after age 40. In a tribal society people ought to have the good grace to die when their children reach child-bearing age—with a few hanging around to be tribal elders, but most getting out of the way. Primitive communities that don't have lots of old people have more food for young ones—and their tribes increase.

But modern technology changes this. New technology may find a way to overcome the self-destruct mechanism; and I find it no surprise to discover that our immunological master gland quietly vanishes about the time we're forty years old. . .

I wonder if the FDA will ever let physicians give thymosin (which is already used in treatment of cancer patients and young children) to normal people of middle age? I suspect I could find a number of volunteers.

Stepping a bit further out, alas, we take a step backward. According

to Dr. Albert Ghiorso of Lawrence Berkeley Laboratories, we have *not* found element 126 and the "magic island of stability." Pity.

Dr. Ghiorso is probably the discoverer of element 104. I say probably, because the Russians like to claim they found it first. (I haven't space to review all the evidence.) The upshot is that an international committee has been appointed, three Soviets, three Americans, and three neutrals. The committee has never met, but it is supposed to decide who, the Americans or the Soviets, get to name 104.

Meanwhile, Ghiorso has reviewed the evidence of the Florida State—Oak Ridge National Laboratory collaboration of Cahill and Gentry which had hoped to find element 126 in primordial samples (the Soviets were searching for it in very old stained-glass window leads) and found it wanting. Working from the other direction—if you can't find it in nature, can you make it?—Lawrence Laboratories and the Soviets at Dubna have been bombarding $^{248}\text{Curium}_{96}$ with $^{48}\text{Calcium}_{20}$ in an attempt to create super-heavies—and found none.

It's a great pity because I've just finished a science fiction novel whose plot depends on the discovery of super-heavies; but all is not lost. It's true that we haven't found any natural super-heavy elements, and best efforts haven't made any, but the search is still on and they're still theoretically possible.

Finally: what makes the Sun shine? It does, you know. Some theorists now wish it didn't. (Sure: that would kill us all, but doggone it, it sure wrecks a lot of good theories. . . .)

Open any astrophysics or intermediate astronomy textbook, and you'll see confidently asserted a series of equations showing where the Sun gets its energy. Take four protons (hydrogen nuclei) plus two positrons plus two neutrinos. Adding the mass/energies of the input protons and subtracting out the masses of the output discloses some mass missing: enough to generate 25 million electron Volts, and thus the Sun shines.

So, a number of years ago, theoretical astrophysicists devised an experiment which would confirm this so generally accepted theory. It wasn't supposed to be an exciting experiment; after all, we know more about the Sun than any other star. Indeed, most of our astrophysics theories are deduced from stellar observations, most of which are of our own Sun. Besides, it always helps to have confirming experiments of basic theory: Hans Bethe settled it all theoretically back in 1939, but it couldn't hurt to do an actual experiment even if this was the best understood aspect of astrophysics.

So out in the old Homestake mine was installed 100,000 gallons of perchloroethylene, C_2Cl_4 , and a very elaborate system for counting

what happened when neutrinos struck the chlorine. (That generates argon and so gives us a method for counting neutrinos.)

The ^{37}Cl to ^{37}Ar reaction expected from solar neutrinos was worked out by Dr. John Bahcall, Professor of Natural Sciences, Institute for Advanced Study, about fifteen years ago. The unit is the "SNU" (pronounced "snoo"), about 10^{-36} captures per target atom per second: not very many, meaning that one needs a lot of ^{37}Cl and a long time before you expect to see anything happen.

Raymond Davis and John Evans of Brookhaven National Laboratory worked out the actual test equipment, which involves finding 15 Argon atoms per month in that immense tank of cleaning fluid. They have also tested the procedure, injecting known numbers of Argon atoms into the system and recovering them. To the best of everyone's knowledge that experiment ought to work, and the neutrino capture rate in the tank ought to be about 6 SNU.

The observed result: a maximum of 1.3 SNU, and possibly none at all. This is astounding. Has the Sun gone out?

Dr. Bahcall is a careful man. He wanted it clearly understood that he still believes the textbook proton-alpha reaction is the explanation for why the Sun shines. However, when pressed, he will discuss what he calls "cocktail party" theories:

that is, theories that a scientist might put forth in a cocktail party, but which one has no business publishing in a serious journal.

"Unfortunately," Dr. Bahcall told us, "a lot of cocktail party theories have been published. . ."

There are three major classes of theories to explain why we have observed no solar neutrinos: those which horrify astronomers, those which horrify physicists, and those which drive both up the wall.

The astronomers like to think something happens to the neutrinos on the way here: they're produced all right, but they're a lot less stable than physicists thought they were. After all, the only observations of neutrinos have been in paths from a few centimeters to a kilometer or so long; perhaps over longer distances they decay into something else. Most physicists don't care much for that theory.

Physicists, meanwhile, have always felt that astronomers don't really understand stars as well as they think they do. Thus, Dr. Bahcall says, the failure of the standard theory just proves to physicists that they're right in being skeptical about what astronomers say. (Not that Bahcall himself has this attitude, but it is widespread.)

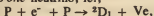
Anyway, the result has been what Bahcall describes as a theoretical orgy of mostly "cocktail party" theories.

Item: the Sun has "gone out" and periodically does so, reigniting

after a period of gravitational collapse. Item: there's a black hole consisting of around 1% of the Sun's mass dead center in our star; the Sun shines because matter falling into the hole gives off energy. There's no fusion in there at all. Item (a theory that really drives astronomers nuts): suppose all the heavy elements in the Sun are concentrated in the outer layers (for reasons no one can give); then the results would be consistent with neutrino observation.

Whatever the explanation, there's probably a Nobel Prize in it, which may explain why the Soviets are spending enormous sums, really a *lot* of money, on solar neutrino experiments. They're scaling up the Davis experiment by a factor of 10 in a tunnel under a mountain (these things need to be down deep to keep the cosmic ray counts low enough so that the solar neutrinos won't be hidden in a fog of interactions).

There's one final possibility, strange, but not out of sight: that the Sun operates, not on the $4P \rightarrow 4\alpha + 2e^+ + 2\nu_e + 25 \text{ meV}$ reaction I described earlier, but through the PeP reaction: a proton plus an electron plus another proton yields deuterium (heavy hydrogen) plus *one* neutrino, ie.,



which as you can see produces just half the number of neutrinos (and they're at a lower energy level too), so that the expected SNU should be

about 0.3—and that's just consistent with the observed data. (NOTE: there's no proof that we have found *any* solar neutrinos; but the likely level is in the order of 1 SNU.)

Now the astronomers will not like it if the Sun turns out to run on PeP; but their unhappiness is as nothing compared to what will result if experiment shows no solar neutrinos at all. Lower than 0.3 SNU requires something really far-out, strange, new, different, a theoretical restructuring along the lines of Einstein's work.

All of which proves that we don't understand our universe quite as well as some of us think we do, and that shouldn't be any surprise to *Galaxy* readers. Stand by. In anthropology; immunology; even agriculture and plant chemistry which I didn't get to; energy technology; and astrophysics, all kinds of exciting things are happening. Like it or not, the Age of Marvels is not over by a long shot, and I confidently expect to find that about half the things I think I know will be obsolete in five years. We don't even know for sure what makes the Sun shine!

Meanwhile, Jimmy Carter's first budget action was to delay the Shuttle. I wonder what will happen to the Large Space Telescope?

It all seems symbolic, somehow, and a bit depressing; but at least there's no urgency now about my column on how to be a space colonist. ★

Kevin O'Donnell, Jr.

A Meeting of Minds



**We must learn to
love our enemies.**

There was in-here, and out-there. In-here was warm and safe—smelly, yes; damp, yes; but safe. Out-there . . . he'd spent half his life out-there. He could describe it easily, but he didn't want to open his eyes. As long as they stayed shut, in-here was cut off from out-there, and the pictures—

-Lieutenant, snap out of it, sir.-

—the pictures were out-there, waiting for him to relax his guard and let his eyelids part. As soon as that happened, they would reappear, and . . . and one picture would shrink him in stature and significance until even he could neither see nor feel himself. The last time, he'd resisted it with all his strength, but no matter how firmly he had said that he did have meaning, and that he'd proved it by gallantry under fire in a dozen encounters with the enemy, it had squeezed him down to a pinprick of light that sparkled like a star seen through atmosphere. If the picture hadn't faded away, it would eventually have extinguished that light, and he would have been no more. But that wasn't all: there was one that made him feel dirty, and dirtier, and dirtier still, and he was

well on his way towards becoming the foulest thing in the universe, unquestionably deserving of eradication . . . and the other, the one that had forced him back, step by step, until his soul was bared and it could break off bits of it and grind them with teeth that—

-Lieutenant, sir, you've got to come out of it.-

-He can't hear you, Sarge.-

"You're wrong," he wanted to say, but caution kept him silent. Outgoing sound waves would link in-here and out-there just as surely as incoming light waves would. He couldn't bear to offer the pictures a bridge to cross, even if it meant that he could not respond to the voices. They were different from the pictures. The pictures had been . . . bad. They'd hurt him, and . . . he whimpered as a memory reared up menacingly. The voices, though, seemed to be on his side. They were angry at the pictures, probably because of what they'd done to him. Keeping his eyes squeezed tight, he listened to the murmurs at the back of his mind, to find out if they were still discussing him. They were, so he eased towards them, ready to scuttle back to safety if he needed to.

-Why? There's work to be done, repairs to be made, and if he stays slumped in his chair like that, we're all in trouble.-

-He's in shock, Sarge.- This one was gentler, more flexible, but metallic nonetheless. -Concussion, radiation overdose, TP attack—he's a sick lad.-

-But I have to be fixed! I can't get us home unless he makes the repairs. And he's got to start now,

because my life-support systems are shot to hell.-

-He's in no shape to do it, Sarge. He must recover, first.-

-How long will that take, Doc?-

-Who knows?- Its shrug was an impression rather than an occurrence. -A week, two weeks, maybe longer. I haven't had the opportunity to examine him thoroughly yet. The initial prognosis should be ready tomorrow.-

-Doc- desperation lurked behind the voice -a week I can't wait. The converter's gone. There's an 80-hour supply of air in the tanks. Two weeks worth of food, maybe a little more water. But even if those hadn't been damaged, most of my reaction mass is gone. What the hell do I do?-

-Find a planet with breathable air. We'll let him recover there. Then he can fix you.-

-Yeah.- Its tone was glum. -You know, Doc, this gives the mission a royal fuckover.-

-I know. But for now, find the planet. We'll worry about the mission later.-

The voices didn't fall silent, exactly, but they did stop making words. A hum hovered behind his mind, reassuring him that he was not alone, urging him to relax, telling him that when there were ideas to be expressed, the potential would be activated. He didn't care. The words had been confusing anyway. The hum was nicer: it solaced, but it didn't bewilder.

He felt his body drift against the left side of his shell, and interpreted the sensation as motion. He was being sent somewhere—or taken somewhere. It didn't matter. The

important thing was to keep his eyes shut so the pictures couldn't return. Even the fingers peeling off his shell didn't matter. Nor did the sudden numb warmth of a subcutaneous spray. What mattered was the cotton wool that was starting to fill the void between in-here and out-there—good cotton wool, nice cotton wool, protective cotton . . .

. . . where was it going? He dug his fingers in it to hold it in place but it melted like cloudstuff and drifted away. With growing anxiety, he searched for a more solid patch in which to hide. There didn't seem to be any. The hum at the base of his skull no longer reassured him, not when he was in the midst of losing his armor. Settling for relative opacity, he curled himself inside a large fluff, all the while cursing its flimsiness.

- —physically healed and adapted,- said the voice. -He can breathe the air, drink the water, eat the plants and animals—he'll get along quite well.-

-Was it really necessary to do all that to him, Doc?-

-In my considered medical opinion,- said the first, somewhat huffily, -the Lieutenant's psychic convalescence will extend to a minimum eight weeks, and an indeterminate maximum. As we cannot provide him with his own food or water, and as we cannot convert the native food or water, I could see no option but to adapt his biochemistry to this planet. And given that necessity it would have been silly not to adapt his physique as well.-

-Enough bullshit, Doc. I get your point. But Base won't be happy if we don't return the same clean-cut warrior they sent out. Can you switch him back?-

-Easily.-

-Is he going to remember his stuff, once he's recovered?-

-I'm not certain. His knowledge was so extensive that some could well have been lost. Re-education might be necessary.-

-Shit. That warship's still up there, Doc, looking for us. It's only a matter of time. When it gets in range, I'll show up on its screens like a neon sign. You've got to get the Lieutenant's mind healed damn quick.-

-I'll do what I can, Sarge, you know that—ah, he's conscious. Good morning, sir—have a nice rest?-

He shivered, less from the cold than from the attention. He didn't want to be noticed. That could tell the pictures where he was. His eyelids screwed themselves together and colored lights exploded behind them.

-Sir, everything's fine, you're safe. You can talk to us.-

His tongue licked over dry lips. The air smelled strange. It wasn't pure, it felt full of different . . . he sniffed, and caught a whiff of vegetation, and another of fur, and another . . . it felt full of living things, that was the difference, living things and sunlight and fresh water. Sounds assailed his ears: the wind rustled, paws padded across a mud flat, branches creaked, birds called. His shoulders slumped as he realized that the bridge had been laid down; the pictures could cross

it at any time. Self-restraint was now self-defeating. "Wa-water," he croaked.

-Outside, sir. There's a stream.-

-Doc, you can't send him outside, not in that state.-

-We can't transport the water for him, Sarge. Once he starts his recovery, he can devise a pump, and integrate it with your life support systems, but for now . . . he must do it on his own.-

-But there were wild beasts out there, they could— -

-Don't worry. Your lasers will protect him, for one thing. For another, he can carry a hand laser. And for a third . . . as soon as he steps outside, I'll implement a TP net that will saturate the immediate vicinity.-

-What the hell good will that do?-

-Those 'beasts' out there are decision makers, so we'll be able to read them. If any intend to attack the Lieutenant, we'll know at the same moment they do. With that much advance warning, he'll be safe.-

-Yeah, well . . . I don't like it.-

-No other option, Sarge. Besides, he has to go out for food, anyway.-

-My lasers can kill enough in a minute to feed him for a year.-

-Of course. But can you retrieve it? Or store it once it's been retrieved?-

-Um . . . no.-

-All right. So be quiet for a while, and don't distract us. Lieutenant, it's time to open your eyes.-

He shook his head and, for emphasis, laid his palms over his eyes. "N-no," he gasped, "not that. Please?"

-You have to, sir. Come on, take your hands down—that's a good Lieutenant—now open your eyes—lots of beautiful things to see—that's it, relax those muscles, let them slide apart, easy now, let's go—good!-

A spear of light flew through his slitted eyelids, and tore into the soft flesh behind them. "Oh!" He fell to his knees, and brought his hands up again. "Hurts—enough—no more."

-You'll get used to it, sir, it'll only take a minute. Here, Sarge'll turn down the lights—Sarge?—you'll be okay, Lieutenant, just remove—ah, good.-

The light had softened and no longer stung. He moved his head to the right, then to the left, back and forth, sweeping wider and wider each time, until he knew that no enemies had infiltrated the place of metal and glass. He sagged, and let his buttocks rest on his ankles. "Wa-water," he repeated.

-Yes, sir. It's outside.- The light was growing stronger while it spoke. -Go to the door, sir, and step out, and I'll direct you. It's not far, sir.-

-Doc!-

-Yes, Sarge?-

-What about germs? Primitive places like this have— -

-Do you suppose I wouldn't have dealt with that while I was working on him? He is immune.-

-Unh.- It was a grumble of concession. -Aren't you at least going to give him some clothes?-

-Why? It's warm outside. He doesn't need them. And he doesn't remember how to control himself anyway—he'd spend half his time washing them.-

-Hm.-

He found himself in the lock. Dim memories kept him patient while he waited for the doors to shuffle through their alternation. His tongue seemed thicker, seemed to fill his mouth and press annoyingly against his throat. Then the outer door slid back and bright green light made him squint. The ramp carried him gently to the ground as a chorus of high, soft voices awakened in his mind.

-Sir?- Low, but very loud. -Can you hear me, sir?-

"Yes," he muttered. "Water?"

-Straight ahead, sir. About two hundred paces.-

Grasses brushed his legs as he strode through the field. A line of trees ahead indicated the nearer bank of the stream. Insects danced around him, landing on his shoulders, crawling on his chest. He ignored them all, except for the few that wriggled into the corners of his eyes.

Another murmur arose and he identified it as the sound of water slipping over stones. He walked faster, broke into a trot, and then into a full run. The ground dropped away beneath his feet and he tumbled head over heels down the slope. A warm backwater broke his fall, a thousand slivers of silver bursting away from him. He drank.

-He could have killed himself, Doc.-

-What the hell, Sarge, I can't control him! I can only talk to him.-

-Well, you could have— -

-Drop it, Sarge.-

-Yes, sir!-

He raised his head and let the water trickling from his hair caress

his skin. The sunshine was a comfort, even if it did ricochet off the tiny wind waves and make him blink. Knees nesting in the soft riverbed, he listened to the animals that were staring at him.

-Doc, we're running out of time. Not only is that warship still out there, another's on the way. Say what you want about the enemy, they're persistent bastards. With two of them searching, it won't be much longer before they hit this place. When the *hell* is that kid going to be able to fix me? It's his own life that's at stake.-

-Is it really that urgent, Sarge?-

-Yeah, it is. We got maybe a month.-

-Well . . . Reluctance permeated its tone. -His physical recovery has been complete, but mentally . . . he has not made sufficient progress, Sarge.-

-Sufficient for what?-

-For resumption of his duties. I shall have to use the hypno-educator on him, but . . . - it gave an electronic sigh -that could further disorient his personality.-

-Will it make him remember how to repair me?-

-Oh, yes.-

-Then do it, dammit, and worry about his personality later.-

Another sigh. -Very well.- The volume increased as it pulsed its message into the TP net: -Lieutenant, come here, sir. Lieutenant, come here.-

He was tempted to ignore the call, because he didn't want to return to the place of steel and glass,



the place where the pictures had had their way with him. But the voice surged through his mind like a wind through tree leaves, and he knew that it wouldn't stop until he'd presented himself.

Bushes shook as he stepped back into the clearing. The spindly-legged creatures he'd been watching sprang high and low in the opposite direction, blue tails flicking a startled farewell. He waited until the last had disappeared; their beauty and grace laid a weight on his heart.

Then he was running, because the voice was becoming more insistent. The smooth slick soil of the game trail slipped by under his toes. His bare legs, brown now from the days he'd spent drowsing on the sun-caressed creek bank, pumped easily, powerfully. They pushed and stretched and pulled; he jumped higher over fallen branches than he needed to, simply to revel in the pleasure of it.

The days before were cloudy in his mind. Every time he tried to reach them, he split in two, and each half struggled with the other. He couldn't go back in time much at all; he had to be content with the wispy scraps that floated through the elastic barrier.

He knew that his body had once been different—smaller, for one thing, and not nearly so strong. Now it was long and rangy; he could see muscles ripple under skin that used to be tighter, firmer, more densely packed.

He liked the new body, with its lungs that drew such large volumes of the clean light air so happily, with the powerful fingers that could grasp one tree branch after another,

higher and higher, until the trunk swayed beneath his weight and he could lean fa-a-ar out and nearly touch the ground.

It was a goody body, and most enjoyably so in the legs that could run quickly, effortlessly, continuously . . . for hours and hours, across all kinds of ground he could follow the skitterish, heart-thumping beasts of the field . . . or flee from the soft-footed blood lust of the forest's predators.

Birds squawked their annoyance as he darted across the long grass of the clearing; they flurried away from their meals to study him from the treetops.

-Come in, Lieutenant.- His image shuddered as the gleaming door retracted. He ventured into the cube of cold light, felt it scrub his skin until it seemed that he, too, must be burnished smooth. To enter the place of glass and steel, one almost had to become a part of it. -Thank you, sir—please come in.-

He stood by the door, reluctant to advance because the sleek black lines of the chair dominated the room, and it was in that chair that— The air was crisp, and dry, and dead. Enveloping him, it towed him down, dried his tongue, put a feathery tickle at the base of his nose. "What do you want?"

-To your right, sir.-

A glossy plastic panel rose to expose an alcove; his eyes narrowed at the sight. Faint memories stirred, but they were only bulges in a curtain.

-Please go in there, sir.-

"I don't want to."

-It won't hurt, sir, really.-

He caught the edges of words not

meant for him: -Dammit, Doc, can't you make him get in there?-

-Impossible, Sarge. He *is* our CO, remember?-

-Yeah, but— -

-I can't override my programming, Sarge, and I doubt if you can override yours. He's boss no matter what shape he's in. We have to coax him.-

The voice was directed at him again, its center impacting on his face. -Sir, please go in there, we really need your help.-

"If I do, will you let me go outside again?"

-Of course, sir.-

"All right." He stepped inside, ducking his head because the ceiling was so low. The panel fell like soundless night, and sealed itself. His skin began to creep. He licked his lips. The room was too small, too sleek. Its hard surfaces and sharp angles were threatening. He had to—

bleep

-What program are you running, Doc?-

-Emergency Repairs, eventually, but I have started with Tool Handling.-

-How long will it take?-

-Two hours and thirty-seven minutes.-

-And then he'll fix me?-

The voice took pains not to mar the other's bright eagerness. -I hope so, Sarge, I really hope so.-

* * *

He put down the welder. "Run a check on that, Sarge."

-Yes, sir.- A light glowed on the control panel, and something deep inside hummed peacefully. -That's it, sir, 100%.-

"Anything else?"

-Not a thing, sir, not a thing.- The computer sounded as satisfied as a man who leaned back from a belt-loosening dinner. -Damn, but it's good to have you back, sir.-

"Thanks." He wound the cord into a tight coil, and stowed it with the other equipment in the tool chest. "It's good to be out of that fog I was in."

-We're ready for take-off any time, sir.-

"Oh?" He stretched, and let himself bask in the warmth of knowing that he'd done a difficult job well. Fatigue was settling in, slowly overwhelming the now unnecessary drive for perfection. "Well, just let me out and you can go on about your business."

-Sir?- It appeared to squelch its surprise, and force itself to contemplate the possibility of unsuspected malfunctions. -I'm not sure I heard you correctly, sir.-

"I said open your door so I can get out—then go do what you want."

The voice started to sputter, and another cut in smoothly: -Do you plan to remain here, sir?-

"Well, sure, Doc." He was puzzled by their surprise; it seemed to him that they had once been more sensitive, less obtuse. Hadn't he made himself clear? They'd asked him to fix them. He had, not letting his queasiness interfere. Now the job was done, and they could leave. "You didn't think I was going to go with you, did you?"

-Frankly, sir, we had been expecting it. Why do you wish to stay?-

Bewildered, he gestured to the enclosing walls, the low-hanging ceiling. "Can't you see?" he asked, thinking of the forest's sprawl, with its hollows and hills and infinity of heights.

-If it's claustrophobia, sir, the hypno—

"No!" He winced as the shiny walls spat back his sharpness. He hadn't meant to be abrupt; he'd only wanted to express distaste for the machine that planted spiked seeds in helpless minds. He wouldn't go back into anything that opened the top of his skull, and toyed with the essence of his being. It had already changed him—although, luckily, in a good way—but he wouldn't give it a second chance.

He liked himself the way he was: free, natural, honest. The machines wanted to alter him, wanted to turn him into something closer to themselves. To create their golem, they were as willing to mutilate his soul as the enemy was.

People need room, and variety. They need winds that sometimes come through a pine forest, and sometimes blow straight off an ice-strewn sea. They need the billion sounds of life, the ever-changing textures of nature. They get none of those in a metal ball that rolls between the stars.

The machines knew that but they didn't care. Ruthless in their refusal of independence, they insisted that a human hand hover over their metal skins. The hand's yearning for freedom meant nothing to them. Noise,

that was all. Run it through the modulators a few times, clear away the static, beam it where you will. If that meant tampering with the mind, well . . .

With dreadful clarity, he saw how his allies mirrored his enemies: the one wanted slaves and the other wanted masters. Each was willing to shave off whatever intricacies, eccentricities wouldn't fit into the form. Each hungered for a part of man; neither would take him whole and complete.

"Let me out," he said, fearing that if he stayed longer, subtle changes would begin to show in him, "let me out!"

-Sir,- argued a voice, he didn't care any longer which, -the enemy is *en route*, and if they discover you—

"Let me out!" He hammered on the door. His lungs burned with air he wasn't meant to breathe, air designed for machines, dry and cool and sterile. It would be a vacuum if they weren't such masochists that they demanded to be subservient. "I am *ordering* you to let me out!"

-Open the door, Sarge.-

-I was going to, but—

-You cannot mutiny any more than I can; you will only destroy yourself if you attempt it.-

-Doc, we *have* to take off 'cause they're coming and they'll spot us as soon as they scan this side of the planet, but Doc, he can't survive here, not out in the woods without your TP net and all.-

-We both know that, but he does not. And he is the CO. So just—wait. Can we play hide-and-seek with them?-

-You mean keep the planet be-

tween us and them? Sure, no sweat.-

-Give the Lieutenant a radio he can use to call us. After take-off, we will stay in this vicinity as long as possible.-

The voices were cold mists at the back of his mind; he couldn't clear them away and they wouldn't leave. His fist was getting sore. His throat was raw. "Please," he gasped, "please, open your door."

-If you take this radio, sir,- a compartment cover flew up and the radio glistened in its fluorescent lights -we will open the door. Use the radio if you want us to return to pick you up.-

He hesitated. It could be a trap, a . . . a Trojan Horse. Why would one machine urge him to take a second machine unless the second would make him more amenable to the demands of the first? But— he touched it tentatively, then moved his finger away —he could always throw it away once he was outside. "All right." Picking it up, he concealed it in the palm of his hand. It lay as cool and silent as a pebble. .

The floor vibrated as the doors slid back. He stepped into the airlock, eyes wary for a final attempt to detain him. His heart raced for the few seconds of solitary confinement. Then honest light splashed across his cheeks and real air filled his lungs and he was down the ramp, running, forgetting the micro-transmitter, ignoring the silent upward thrust of the ship, running . . . free.

His lean-to—crooked sticks

NOTICE TO SUBSCRIBERS

Due to unavoidable technical difficulties there has been some disruption in our scheduling and we have been forced to adjust our cover dates accordingly. *All subscriptions will be adjusted so that subscribers will receive the full number of issues to which they are entitled.*

Galaxy very much regrets any inconvenience this may have caused, and we are confident the situation will not recur. Thank you for your patience.

—THE MANAGEMENT

bound with slender vines—didn't stop the rain but did slow its headlong rush. The fire was going out again. He cursed, rummaged in the shadows for another length of dry wood, but came up empty. With another curse, he resigned himself to darkness.

The forest was a different place with the TP net gone. Before, hearing all the animals, he could measure their reactions to his smell. He'd had plenty of warning the two or three times one had chosen to attack him.

Now, without the machines that augmented his inherent sensitivity, they were only sounds in the night, odors on the wind. If one was hungry, he wouldn't know it until the very last moment.

Grinning skeletally into the forest, he realized that he was

afraid. And in that moment he realized further that he was glad to be afraid, because for the first time in months his fear was of harm to his body. He could die there amid the rotting leaves and branches, but he'd die with his mind intact. Neither tooth nor claw could do more than still that mind. And nothing else really mattered.

The last ember crackled; the last tongue of flame spit and died. He'd have to wait for morning. He pulled deeper into his shelter, club in one hand, laser in the other. He reminded himself to be sparing with the laser—it would soon exhaust its charge.

His eyelids slipped down; he inched cautiously into the hazy mix of real and unreal that prefaces the truer illusions of sleep. A part of him played sentinel, ready to sound the alarm at the first carnivorous snarl, or even the first brush of fur against rain-soaked grasses.

-Doc, we got real troubles. They're on their way.-

-So we play hide-and-seek, right?-

-Wrong. *Both* ships are coming. We can dodge one of them easily enough, but not two. They'd pick up our emissions in a minute.-

-So what do we do?-

-We *could* make a dash for home—-

-And leave the Lieutenant behind? Not a chance.-

-I was afraid you'd say that. Our other choice is to set down on that moon and shut ourselves off.-

-But should the Lieutenant call us—-

-We can leave one low-power receiver going; I've already written a

program that will wake us up when the Lieutenant's signal comes in.-

-Well, if you think—-

-I do.-

-All right.-

* * *

The uneasiness had been growing within him all day; he could no longer pretend that it sprang from changing atmospheric conditions, or from worry about the planet's predators. It was too strong, too familiar, too . . .

. . . not evil, exactly. Something else, a deep and basic difference that the human soul could not accept, had to reject without being able to explain its precise repugnance. The propagandists, who'd never felt it for themselves, used the word evil all the time, but that blurred the fine distinction his mind was trying to make.

Sitting on a sun-warmed rock he tried to pin it down. There was strength, purpose, and an acute intelligence. But—and this spawned the uneasiness—all were different, all tangential to their human equivalents.

Take their ships. Ungainly arrays of girder-laced pods, they were sealed units, with neither hatches nor airlocks evident, as though they had been built around their pilots. Their armor made them all but invulnerable to lasers, yet the specialists who'd examined several derelicts of battle claimed there was no shielding between the engines and the bridge. And why had no one ever found a corpse, or even an empty spacesuit?

The whole war had been a suc-

cession of such incomprehensibilities. First contact had commenced with a blast from the alien's lasers, and had ended with the evacuation of an entire system. The enemy had presented no demands, registered no protests. Revealing nothing of themselves they'd come upon humanity like a plague. Even after nine years of frequent skirmishing the only thing known about them was that they built fast, tough, deadly ships.

Like most humans, he reacted to the enemy as would a mastiff to the presence of a tiger: neck hairs bristling, belly tight, mind awash with the perception of the difference. The oppressiveness of their proximity, like a spectre leaning over his shoulder, drove him to his feet. He stood uncertainly, his shadow cool black against the brown grasses of the hillside.

Hiding would do no good. The enemy wasn't searching for him physically—though its detection devices were superb, even they couldn't single him out from all the other mammals—but it didn't have to. Short of leaving the planet, he could not escape the pressure of its mind.

Ah! It had noticed him now. Rather, it had just realized that it had been growing aware of his presence. He could feel its thoughts shifting, the focus of its attention kaleidoscoping until it peered down at him like a monstrous eye through a microscope lens.

Leave. The order twisted through his brain like a worm through soil; its after-texture was of slime.

He squinted into the dazzle of blue that was the sky, as if he

thought he could spot the extra glint that came from its ship. *I can't*, he said.

It knew he spoke the truth, because otherwise his lasers would have been stabbing at it.

You leave.

When we perceive the impetus, we shall.

He interrupted quickly, in the hope that he could influence it before its pride—was that the right word? wouldn't "reflexes" be more accurate?—made it impossible for it to bypass him. *In the interim, then, let us tolerate each other.*

Tolerate?

He felt a spark of hope. In all the times he'd seen their tumbling craft on his screens, he'd never encountered one willing to negotiate. Always had the furious beams lanced out, as if hurled by an instant, inevitable animosity. *Let us not harm each other*, he explained.

Certainly. Cease your mental processes.

I cannot. Is there no other way?

No. You blur the vision. You twist definitions. Hatred began to writhe in the other's thoughts. You impinge on our perceptions, and distort the reality. You must die.

He knew then that reason was futile. Involved was no simple xenophobia, nor nationalistic squabbles over spheres of exploitation. Madness was the issue. The races could not co-exist and retain their sanity. It would be like mixing steam and ice, and hoping that they would remain unchanged.

But he didn't want to fight. Death was one thing; it could be faced with near-equanimity because it would have to be experienced

eventually. Personality disintegration was different. To know that his body could live as the setting for a charred and tortured fragment of his soul was to know horror.

And it was so damn painful.

His hands were shaking. Unable to control them, he laid them flat on his thighs and pressed hard. A cloud slipped before the sun; he shivered as if it were an omen.

He was being given no choice: the enemy would attack. His only alternatives lay within himself. He could let it ravage his being, or he could resist. If only he were stronger. If only he hadn't lost the first engagement so decisively . . .

Very well, he said slowly. I see that one of us must die. Be warned that I intend to survive. The bit of bravado was meant for himself, not for it. In a TP battle, beliefs, more so than actions, can be clung to like timbers in a storm-tossed sea.

The attack began, gently enough, when the enemy exchanged its photosensitivity for his. Colors shifted, with violets fading and new reds seeping into the landscape. The purpose was disorientation. The effect was of a surreal battlefield that stubbornly refused to drink the blood urged upon it.

Rejecting the vision, he forced the spectrum back to its normal range. He sensed its disquiet. As his eyes roamed across the opposite bank, he intensified every hue.

It retorted with a figure of a man—himself, he knew quickly, elicited from his mind by shrewd suggestion. The figure stood tall and proud. Though puzzled by the tactic, he was pleased by his apparent air of heroism.

Then changes crept in. The focus sharpened to reveal a backdrop of stars, tiger eyes peering from impenetrable night. The figure seemed smaller; its pose more pompous.

Harsh, mocking laughter rang across the firmament. The field, enlarging, shrank him proportionally. Loneliness rode a chill wind from space, a wind that whistled through his limbs and jeered at his solitude.

He was alone, the wind told him, because his race didn't want him. He had a power that made them edgy, a talent that made him pariah. They'd exiled him, murmured the wind, sent him away so their daughters would be safe, so their grandchildren would be normal. They'd dropped him into the emptiness that swaddled the universe and they hoped that he'd never find his way home.

And he, roared the wind's bitter humor, had thought himself honored. He had believed he was needed. He, like all the other damn fools who cruised their chrome cages so far from scent and sound of their fellows, he had actually pictured himself as a hero.

Lies, shrieked the wind, all lies.

He was sagging, shoulders slumped and head hung low. It was telling the truth. He was an outcast, he was a leper, he was . . . he was . . .

The sun's warm hand stroked his back; the wind's gentle fingers brushed his hair. He shook himself, widened his eyes and grasped the rock's gritty sides.

Pinpricks of pain awakened in his palms. He squeezed harder, till the blood welled from a source of tiny punctures. It gave him something to



hold onto while he cleared his head.

Then he was ready. *You're wrong!* The image in his mind shuddered, split, fell into a heap of glittering rubble. *That's your life story, not mine. I am loved.* To reinforce his certainty, he dipped briefly into memory: after his last de-briefing, he'd emerged into a hall jammed with friends, relatives, reporters, anxious well-wishers . . . there were cheers, hands to be shaken, microphones at every side, nubile young bodies curved against his . . . *I am loved, do you hear? Do you feel? It's you who are not!*

He'd show it why. He'd prove it to it. His eyes criss-crossed the pools of sunlight, reached into the rambling shadows. There, on the damp soil by the water—

—now its ship from afar, zoom in on the control pod, peel back the armor. Abruptly show the pilot's couch—

—overflowing with dung and a million maggots.

That sudden juxtaposition should have jarred it, but it seemed stronger. It lashed out like a whip; he had to jump back. Retreating, he remembered the sequence from the earlier skirmish, and when the giant teeth snapped at him—

—he decayed them into powder.

That gave him time to launch a new onslaught: the enemy's own people (empty outlines tinted with the signal that would trigger it into painting them in) drive the enemy into its ship, weld tight the last plate, send it on a kamikaze mission—

A mirror. Himself. The flesh of his face drooping, dripping, running like water from bones that glow—

—alone in a tangle of machinery while a radioactive bulkhead spits—

—his own hand fading into invisibility—

—stinking sealed tomb—

—nothingness—

—hate—

His mind shook with the enemy's violent, vehement negation.

Then—he was too tired, too impotent. His offensives had had no effect; his defenses were slipping rapidly —then go to them, damn you, join them, embrace them. Almost idly, he transmitted the pattern of his remembered debriefing, leaving the details of appearance vague so that the alien could populate the scene with its own kind. He felt it sink in—

—and was almost immediately blown off his rocky stool by a tsunami of shock and horror. Rubbing the back of his head, he looked up in confusion. After-tremors of disgust continued to echo through the enemy's mind.

The setting sun raised bands of light above the horizon, as if they could slow its descent. Fur-feathered birds kewed past, gorging themselves on the insects that clouded the air. He watched them without seeing, while his mind probed the enemy that would shrivel it.

And then he understood.

After that, it was easy. He had so many memories of togetherness . . . the only difficulty was in determining which to use. He chose a few at random, like an archer reaching blindly into his quiver, and shot

them off one after another: affectionate relatives, passionate girlfriends, jubilant teammates . . .

The enemy was radiating misery, but that wasn't enough. He needed more.

He looked at his hands, strong and capable. They rotated; they flexed. He made fists and fans and claws, multiplied them by a thousand, then by a million.

All the hands in the universe reached for the enemy, straining to stroke it, aching to touch it. A forest of fingers, all—

When he regained consciousness, his mind was quiet. The enemy was gone.

Stiffly, he began to collect firewood. Night would be upon him soon, and with it the other predators. The pile of kindling grew. Bats chittered as they made a feast of the insects he had disturbed. A weary restlessness turned each dry stick into an iron rod.

At last he could sink down against the hard ground and let the roaring flames bring a flush to his face. The possibility that he might spend the rest of his life hauling no longer excited him and the laser's charge was almost gone, which would make hunting even more difficult. And the summer was already passing, cooling down into autumn.

He had no business being planetside—he was a scoutship pilot. The life-choked forests were meant for others, for people who needed a comfortable reality tangibly omnipresent, and in graspable sizes.

But he didn't. He thrived on emptiness, and on distances that approached infinity. That was his

element, and outside of it he was meaningless.

Like a person watching a silent film, he tried to delve into his memories and discern the reason he'd wanted to leave his ship. What he found was one-dimensional, incomprehensible: a running man who kept looking over his shoulder even though nothing chased him. The image elicited no sympathy, no understanding of what had driven him. The two were completely different people.

He thought he recalled approximately where he'd left the micro-transmitter. In the morning he'd find it.

* * *

-Welcome aboard, Lieutenant.-

"Thanks, Sarge." He surveyed the small room with undisguised pleasure. "Are we ready for take-off?"

-I would like to run a quick MedCheck first, sir,- said the other computer. -There are also a few physiological alterations that must be made to restore you to your original status.-

"Oh, sure." He crossed to the appropriate cubbyhole and waited for its panel to retract. "It won't be long, will it?"

-No time at all, sir.- The door hissed up, and a light shone invitingly. -Just step inside, please.-

The sub-cutaneous spray stung his arm like a loving insect, and the anesthesia swirled in his veins. The world faded into mist, but the voices throbbed at the back of his head:

-Your gamble paid off, Doc.-

-Exactly as I predicted,- it replied, not a little smugly.

They went on, but he stopped listening. The drugs, by isolating his mind from his body, had freed something else to bob to the forefront. It was a small notion that, having taken root in his subconscious the previous evening, was now beginning to flower in the illumination of his concentration.

Remembered love had driven the enemy from the battlefield after hatred and fury had failed to budge it. The other scoutship pilots should know about that vulnerability. Base should be told at the earliest possible opportunity.

The insight had another facet, though, one that might have greater significance than its potential for destruction: it was a measure of the enemy's alienness, of the great gulf that lay between them and humanity. As such, it could well say something about the assumptions of mankind.

If we shun loneliness while they flee togetherness, if we prize importance while they yearn for insignificance, if we pursue life with the same persistence that they seek death . . . if our love is their hate . . . could our war have been their play?

Maybe, he mused, as the MediMachine trimmed, transfused, and transformed him, we misunderstood them from the beginning. Which means that they might have misunderstood us. Which means . . . my God, do they think we enjoy this?

It was something he'd have to ask the next time he encountered the en—the others. ★

HELP NOT WANTED



**Thomas A.
Easton**



**A computer's loyalty is
to its programmer.**

The first problem was with United Panacea's version of the Pill. The pamphlet that had come with that month's up-dated tapes had called it a breakthrough. UP had done away with all the old side effects by taking a different tack: their drug attacked the pituitary, the master gland of the body. It jiggered the controls on the ovaries instead of aping their output. It altered hormone levels at the source.

Dr. Luther Thistlebank had signed hundreds of prescriptions for the new drug without question. He had smiled and nodded when his female patients had thanked him for the freedom from headaches and swelling and fear of blood clots he had given them. He had congratulated himself on his astuteness when they sent their friends to him. And he had felt extremely satisfied whenever he had checked his bank balance.

There was no doubt about it. This Pill was a wonder.

Many of his Pill patients were young. They were healthy, smooth-skinned, and silken-voiced. Young mothers, career women, college students. He didn't see them often, but when he did he smiled to himself. They were a pleasure to examine.

At least they had been.

Polly Holmes had been one of his favorites, until the day she barged past Miss Epsolm into his office. He looked up from his desk and felt shock. Her face seemed grey, until he recognized the graininess of stubble. Her arms and legs seemed gaunt, until he saw past the loss of fat. She might have been exercising heavily, but her words belied that thought.

"You bastard!"

His mouth dropped open. Her voice was still silk, but there was gravel under the sheen. It held lumps and runs that he had never heard from her before. He stared as she leaned over his desk, pretty despite her rage, despite the words she spat at him. Despite the stubble.

"You son of a bitch! Look what you've done to me!" She grabbed the hem of her skirt with one hand and yanked it up to her chin. The other hand burrowed under the waist of her panties and pulled downward. "Look!"

He gasped. He leaned on his desk as he bent toward her to see. "My God! Miss Holmes!" Her clitoris

was three inches long, the prepuce fully developed. It hung limply over the bulge of her labia. He stretched out a hand to investigate it more fully, but she suddenly backed away, letting her skirt fall back into place.

"It gets in the way!" she screeched. "It gets hard! It sticks out! And it turned my boyfriend off!"

Nonplussed, the doctor settled limply back into his chair. He stared at her furious face. Masculinized, surely. Whiskers. A changing voice. And he was sure there was more hair on her muscular arms and legs. The Pill must have controlled the wrong hormones.

He could say nothing, except, "Well, have you tried. . . ?"

"Bastard!" She grabbed a jar of tongue depressors and heaved them at him. "That goddam pill's the only pill I take." Tears appeared in her eyes. "You bastard!" She spun on her heel, nearly tripped, and jerked the office door open. But before she left, she turned and screamed, "I'll sue!"

And she was only the first.

* * *

The second was with UP's new vaccine. The pamphlet had called it another breakthrough, a broad-spectrum vaccination. One shot would immunize a patient against almost everything, even many vir-

uses. It was the answer to a child's prayer, for it did away with all needles but one.

It simplified things for Dr. Thistlebank, too, but he wasn't sure he liked it all that much. It cut down the number of trips a patient had to make, the number of times the patient could be charged, and in good conscience the doctor couldn't charge more for this shot than he did for any other. He consoled himself with the thought that at least he was serving humanity. As he was supposed to.

The first hint of the problem appeared when Mrs. Diane Skelnick came to him. Short, buxom, black-haired, and anxious, she sat beside his desk and said, "Ever since Josie became a Jesus freak, and at the age of twelve yet. Ever since, we've lost her. We don't have a daughter anymore." She stared at the light blue computer cabinet, unable to look at the doctor.

He listened sympathetically. The current term was "godhead," he thought. The city park was full of them. "She's tripped right out of sight, then?" he asked.

"Oh, not really," the mother said. "She still lives with us. But she doesn't share. She ignores us. She spends all her time with those people."

"There's nothing you can do?"

She shook her head. "The police can't even help. They even warned us of her rights! And she's too young to throw out of the house.

Even if she doesn't know it, she still needs us." She hesitated. She shifted her gaze from the cabinet to the floor at her feet. Her hand tightened on the strap of her handbag. "But we thought. . . ."

Dr. Thistlebank murmured softly. When she didn't respond, he added, "Yes?"

"We thought we might try again." She paused once more. "Have another baby, I mean."

"And?"

"It's not working." She shrugged. "I've been on the Pill for years, even before Josie. And when we started her, she came right away, the first month. But now it's been four months already, and nothing. Nothing."

"Well, that's not unusual, Mrs. Skelnick. It can take a year, or more sometimes, for all the effects of the Pill to wear off." He opened a drawer beside him and rummaged for a pamphlet. "You can read about it in this. You've nothing to worry about. Just keep trying."

She protested, but in the end she allowed herself to be ushered back into the waiting room, the pamphlet jutting from her bag. He was sure her anxiety was unfounded. She would catch in a few months. When the door closed behind her, he dismissed her from his thoughts.

But she returned to his mind when four more women made the same complaint. They were all trying to get pregnant, but it wasn't working. He tried to reassure them,

too, by telling them what he had told Mrs. Skelnick, that it took a while after going off the Pill, even the new one.

But his line was spoiled when one insisted she had never been on the Pill. She had just married, and she was trying to start a family right away. And she still wasn't getting pregnant.

He had to take her seriously. He examined her. He gave her every test he knew, and the only clue came from the patch test he made with her husband's sperm. She was immune to her mate; she could never get pregnant by him.

She took the news calmly enough, though it was an obvious blow. Dr. Thistlebank offered to refer her to another man, one who dealt with artificial insemination, but she refused. The father of her children, she said, would be her husband or no one at all.

But Dr. Thistlebank couldn't let it rest there. He could do her no good, but he could look again into those other, similar complaints. He was suspicious now.

He called those patients in again. He checked them out too, and he found the same result in each. Every one of them was immune to her husband, and when, on a hunch, he gave them patch tests with other sperm samples, he found they were all immune to men in general.

He didn't break the news until he had had the computer examine their

records. He set it to look for common factors, to pick out only those shared by all these patients. And there was only one that mattered: the vaccine. They had all had it.

He sat late at his desk that night, his head in his hands. The right to give birth was holy. It was a large part of a GP's practice to turn the body's mechanisms on and off when the patient demanded it. To give her the choice that made the right meaningful.

And he had botched it. God alone knew how many women he had sterilized. He could see the lawsuits coming.

He wasn't wrong.

The third was with the aspirin. Or what passed for aspirin in United Panacea's pharmacopeia. They didn't make anything so simple. They went to the roots of the problem, as usual, and their product, they claimed, was better. It eliminated pain by blocking the pathways that carried it to the brain. It interfered with the normal function of certain synapses, the nerve-to-nerve junctions.

Dr. Thistlebank thought it effective when it brought a smile to the face of a woman with migraines. He even grew enthusiastic when he saw it relieve the pain of a man with a badly burned arm. And he used it freely, as the computer prescribed it for everything from ar-

thritis to sprains. It worked beautifully.

But relatives sued when the burn victim wound up in a ward for schizophrenics.

And the migraine patients started looking for lawyers as soon as they left the offices of their therapists and psychiatrists.

The news made Dr. Thistlebank moan. It nearly made him cry. Why did they have to blame him? What made them think it was the pill? A fifth of his patients would need treatment anyway, sometime, for something. But why now? He could only hope they had prior histories. Only that could let him off the hook.

His belly ached. But he didn't take a pill.

The fourth was a super-antibiotic, one that killed all the bacteria in the body, including the intestinal bacteria that manufactured vitamin K. Vitamin K is essential to the clotting mechanisms, and Dr. Thistlebank's pneumonia patients turned into hemophiliacs.

This problem was relatively minor, though. He managed to stave off the lawsuits by discovering it in time. Vitamin K supplements saved his patients.

The fifth was an allergy shot that desensitized the patient to everything, even bacteria.

The sixth was. . .

The seventh. . . .

The disasters had come in quick succession, and as Dr. Thistlebank relived them, his shoulders slumped. His voice grew ragged. His fists clenched, and at the end, he cried, "Why me? Why did I listen?" He was well dressed, heavy, soft. His watchband was platinum, his wedding ring half an ounce of yellow gold. He banged his fists together, opened one, and began to finger the band.

"You were greedy, Luther," said Alvin Poindexter. The doctor and the lawyer had been friends for years, but they still seemed an ill-matched pair. Fat and thin, hot and cold, but the contrasts were only on the surface. They were both professional men, they were both Lions, and they were both hungry. But the lawyer was a specialist. "It was making a millionaire out of you. And I'll bet you never cut your fees. It would have covered your ass, you know. Made you seem more caring, more helpful."

The doctor looked away from his friend. No, he hadn't. It hadn't even occurred to him. Besides, the computer lease was expensive, and his wife had insisted immediately on buying a summer place, and—

"Your bills weren't that bad. Don't make excuses for yourself." Poindexter shook his head slowly.

Dr. Thistlebank shifted in his seat. "It wasn't all me, Al. It wasn't. Everything was fine till the merger. It wasn't till then that the

computer began prescribing stuff from that poison factory."

"It won't wash, Luther. United Panacea was a reputable pharmaceutical house, at least up to when UBM bought it out. Why should it change? Why should their products suddenly go bad?"

"They didn't." Dr. Thistlebank shrugged awkwardly. "But that's when the computer began prescribing their products. If there were two brands of an antibiotic on the market, it wanted the one from UP, every time. I noticed it, but I didn't care. They were all the same. They all worked. It was just the new products that were bad."

"But why, Luther?"

"I don't know. Maybe UBM has enough clout to buy the FDA. Maybe their quality control went to hell. Maybe they hired an alchemist to head up their research division. I don't know." He glared at the window over Poindexter's head. He waved a hand at the cloud of smoke from the other's cigarette. "That's what I want you to find out. Pin it on *them*, somehow. Get *me* off the hook."

The snap in his voice didn't affect his friend. Poindexter only nodded as he shifted his foot from his desk to the edge of the wastebasket. He stretched. "No sweat, Luther." For the first time that afternoon, he smiled. "You've given me enough, I think. I might even be able to get everyone off the hook. Settle out of court."

The doctor straightened in his chair. The weight seemed to slide from his shoulders. But the relief warred with his skepticism. His friend had a reputation for answers, but . . . ? He opened his mouth.

Poindexter held up a hand. "No more, Luther," he said. "Come back in a couple of days. I do have to check a few things out. Make a few phone calls. And we'll see."

Forty-three patients had hired the best lawyer they could find to screw a hundred million dollars out of Dr. Luther Thistlebank. They had dropped lawsuits by the ton on him. They had sued the computer company, the pharmaceutical company, and the FDA. The insurance company was threatening to revoke his malpractice coverage. And the newspapers were crucifying him.

There was no doubt about it. Dr. Thistlebank had shafted his patients but good. And he knew it, though he told himself repeatedly he hadn't really *done* anything. He just hadn't kept his eyes open.

The first whisper of trouble had been enough to tell him he needed a lawyer, but he had delayed. He knew he wanted Alvin Poindexter, but at first he had felt too uncomfortable to call. Ever since college, his friend had needed him. First, as roommate, to pay the rent. Later, as doctor, for checkups and pills and shots, and, once, to get an alcoholic

wife into shape for a divorce. He hadn't brought himself to admit the shoe was now on the other foot until the damages crossed the million mark.

But his friend hadn't dithered. "Oh, Jesus," he had said. "You're really in it, ain't you? Well, look. I'm flying out of town this afternoon. A court date I can't miss. But I'll be back in a week. Can you come over Thursday, after lunch? You can tell me how it happened then."

The doctor waited, but not patiently. He fretted, he paced, he didn't sleep. And every new lawsuit seemed to give him a new tic.

The damages hit the hundred million figure on Thursday morning.

"I'll tell you how it happened!" screamed the doctor. He pouted as he slammed his briefcase on the desk with a crash. An ashtray, precariously balanced on three contracts, fourteen summonses, and a will, fell to the floor. The mound of butts and burnt-out kitchen matches it had contained fanned across the carpet.

Alvin Poindexter winced. Tennis-weathered wrinkles spread over his temples. He had kept his office at home for years, and though his housekeeper might be used to this sort of thing, he still wasn't. He never would be. He pinched the bridge of his bony nose

and sighed with a tiredness that came only partly from his trip. "Now, Luther," he said. "You shouldn't let a little lawsuit. . . ."

"Little lawsuit, my ass!" Dr. Thistlebank kicked at an outlying cigarette butt and dropped his heavy body into an easy chair. He gritted his teeth and stared past his friend's desk to the window beyond. "It's just the biggest malpractice suit in the history of medicine! I'll tell you!"

Poindexter sighed again. He lit a cigarette and brushed a speck of ash from the lapel of his dark green suit. He raised a sandaled foot to the edge of his desk and propped a wrist across his knee. "I'd like you to, Luther," he said softly. "I don't know a thing yet. Though I did check with UBM and UP while I was gone."

"What did they tell you?" Dr. Thistlebank spoke sharply, suspiciously.

"Not much. But they did tell me to go ahead. To see what I can do. They know my reputation." He touched the three contracts that had supported his ashtray with the filter of his cigarette. The ash crumbled and fell. He brushed it negligently to one side, adding, "The insurance company too."

The doctor combed his fingers through the blond hair above his ears. He licked his thick lips. "The bastards set me up!" he muttered.

"I don't believe it, Luther. Why should they?"

"Well, it wasn't *my* fault."

"So tell me whose fault it was. Tell me what happened." The lawyer's stare was intent, professional. They were friends, but he wouldn't let that keep him from learning all he could.

"Mmmp." Dr. Thistlebank squirmed. He gritted his teeth again and told himself he'd have to see a dentist soon. Unless Alvin found the answers even sooner. "Yeah. Well. It started nearly two years ago. . . ."

* * *

It had been a long day. The Memorial Day weekend had left him a heavy crop of skinned knees and sunburns, of poison ivy rashes and rusty nail holes. The only blessing was that the highway accidents and heart attacks had happened out of state. He wouldn't have to worry about them until they came home. For now, they were someone else's headaches.

Dr. Thistlebank was looking forward to getting home. His wife would pour the sherry when she heard his car in the driveway. The paper would be waiting. And the kids would be haring around with their friends for another hour yet.

Still sitting at his desk, he began to remove his white jacket, but paused with one sleeve half off. Completing the movement, he reached for his intercom. "Miss Epsolm. Is that all for today?"

The intercom crackled patiently back at him. "There's one man still waiting, Doctor."

He grunted silently as he pictured his receptionist leaning forward, her blouse sagging from her withered chest, her eyes shifting from the waiting patient to the intercom and the snapshot of her sailor nephews behind it. "Very well. Send him in." He struggled back into his sleeve and reached for a yellow record card.

The first thing Dr. Thistlebank noticed about his visitor was the heavy case he swung before him, as if to test the air. The second was his startling tie, a broad, electric blue, pinned with a miniature saber. The last was the man himself, a slim and brown-haired fellow, dressed in a light grey suit. His manner was stamped by the broad grin of his fellowship.

Dr. Thistlebank pushed the record card aside with a feeling of relief. No more patients after all, he thought. Just a salesman, and perhaps some samples, or another gadget.

He stood and held out a hand. "What can I do for you?"

The other's handshake was vigorous. "Perhaps nothing. The real question is what I can do for you, Dr. Thistlebank. How many patients did you see today?"

The doctor raised an eyebrow. The question was out of place. The answer was no concern of any salesman he had ever met before.

But it was no secret either. "Perhaps twenty. Why?"

"I may be able to double that figure for you," said the salesman. "Or more." He took a chair and laid his case across his lap. "My name is Greg Mauser. I represent Universal Business Machines, and I'm selling efficiency." He paused as if waiting for another question, but the doctor remained silent. He was curious, but he would let the spiel develop. "UBM is computers, Doctor. One of the biggest computer manufacturers on Earth. And the most innovative. We're always looking for new ways to use our machines, and we now have a way that is of particular value to you."

The line was standard, though the product wasn't. Mauser was selling a computerized diagnostic system, out of UBM by Harvard Medical School. He had a glossy brochure which showed a row of patients giving pushbutton answers to television questions, an office that was as much a GP's as Dr. Thistlebank's own except for the teletypewriter attached to the desk. The equipment was precisely racked in a metal cabinet.

The system would interview Dr. Thistlebank's patients, collect their histories, list their symptoms, and ask for whatever data it might still need. Though the interview was usually enough. And then it would print out the most probable diagnosis, together with a prescription for the appropriate treatment.

"That's how confident we are, Doctor," said Mauser. "All you have to do is tear it off and sign it."

And it could handle up to six patients at once. Dr. Thistlebank was intrigued. He'd had a course or two on computers in medical school. He knew that something like this had been in the offing for years. And he knew that more patients meant more money and a faster turnover meant more time for golf.

Either way he couldn't lose. Could he?

When Mauser described the data base he almost capitulated on the spot. Specialists in every field of medicine had contributed. Others constantly reviewed the literature for new diagnostic clues and treatment methods. UBM itself made sure the latest drugs were listed, and it exchanged the system's tapes every month for more up-to-date ones. But even when he learned that repairmen were on call twenty-four hours a day and that the rental would be covered by just five extra patients a day, he hesitated. Wisely, he said he would have to think about it. Mauser should come back in a week.

"I really don't know," said the doctor. "It sounds fine. It sounds great. But how good is it, really? And even if it pays for itself, it's a lot of money. And what if it doesn't? What if the patients don't take to it?" He shook his head. He really had his doubts.

"They will, Dr. Thistlebank,"

assured Mauser. "They will. This is an upper-bracket town, and half your patients work with computers everyday anyway. They'll see nothing new. And you can tell the rest the new system gives you more time to discuss their cases with them. That's true. It does. It takes over all the dreary detail work. It makes medicine more interesting. And you can use the time you used to spend on details to relate to your patients. To exercise your bedside manner. They'll love you for it."

Dr. Thistlebank shook his head again. "I don't know," he said. "I'll still have to think about it."

By the time he had seen Mauser out of the office, his hour was gone. His kids would be home. The paper would be crumpled from their search for the comics. His wife would be pissed. But maybe he could end that now.

* * *

Needless to say, he bought the system. He started with three of the grayish TV screens occupying the waiting room wall facing Miss Epsolm's desk. She quickly learned enough to show the patients how to use the row of pushbuttons mounted along the lower edge of the ivory frame. The patients soon grew used to the new procedure, and the younger ones seemed enchanted at the very idea of talking to a computer.

But Dr. Thistlebank did think of

himself as a cautious man. He deliberately held to his doubts for months, insisted on checking and double-checking the computer. He refused to trust the machine's diagnoses, would read the lists of symptoms and past diseases back to his patients to look for errors, would ply his stethoscope and tongue depressor as he always had, and even when the machine seemed right, would send out blood and urine samples for confirmation.

He wasn't really happy that he never caught the computer out. An interview, it seemed, was usually enough. If lab work was needed, the machine would say so in its printout, and once the results were fed back to the program, its diagnosis was all that the doctor could have wished. The one time he thought the machine was wrong, it was his own diagnosis that proved faulty.

Six months after the system was installed, he gave up his doubts. He had had to begin to trust. His checks and double-checks were actually slowing him down. He was seeing fewer patients instead of more, and the system's rent was coming out of his own pocket.

Two months after that, he ordered the other three patient terminals. His practice was booming, only partly because of the new Pill. His bank account was healthy again. Other doctors were complaining because their patients preferred the shorter wait he offered them.

And he had less time for golf than ever. He couldn't turn a patient away, could he?

He couldn't, and he hadn't. And the disasters had struck, one after the other. Now he was faced with ruin. His only hope lay with his friend, and that hope was fragile. It was so fragile, in truth, that it didn't survive the morning of his second visit to his friend's office.

The mailman broke it. He delivered a letter from Dr. Thistlebank's insurance company. The letter told him his malpractice insurance was hereby canceled.

The cancellation would save him several thousand dollars a year, but it also meant that he would have to close his office. A doctor who has once been sued is ever after a target, and he didn't dare keep his seat in the shooting gallery.

He told Poindexter as much when he entered his office. "A penicillin reaction," he said as he despondently took his chair. "A little thing like that, and I'd be bankrupt. I might as well cut my throat. What else can I do?"

Poindexter cleared his throat softly. He shrugged. "I suppose they don't want to get stung next time. They know you're a target, too. And there's not much I can do, unless these suits never come to court."

"There's not much chance of that."

"Oh, I don't know." Poindexter grinned and reached for his ashtray.

His desk was clean now, except for a legal pad covered with his close scribble. The carpet showed no trace of the ashes the doctor had spilled three days before. "You may be off the hook."

Dr. Thistlebank made no attempt to conceal his startlement. He had hoped, but. . . . "What do you mean?"

"Well, for one thing, you're not alone." The lawyer paused as if for effect. Deliberately, he lit a cigarette and dragged out the first puff. But he returned to his speech when the other's eyes began to narrow. "UBM leased that diagnostic system to fifteen other doctors around the country, and they all had the same problems, Luther. Though not with as many people." He didn't say the others must have been more careful. They still hadn't been as careful as the ten thousand others the system had been offered to. "They brought the total to about two hundred lawsuits."

"But the side effects are their own solution." When Dr. Thistlebank looked blank, he sighed and added, "Look, your Pill patients are suing you because you gave them a sex-change operation without their consent, essentially? Right?"

The doctor nodded.

"And sex-change operations go for about twenty grand. I've already got a clinic in Baltimore lined up to use the drug for that purpose. They'll have to do some work to fig-

ure out the right dosage, to make it work every time. After all, you only ran into the problem three times, out of how many?"

"About seven hundred. By the end."

"Less than half a percent. Like I said, it needs work. But it'll help pay for the damage. And so will the others. The allergy shot wiped out the body's defenses, which means it's ideal for transplant surgery. The painkiller's not much good for anything, but I did talk to a psychiatrist who thinks if it can make a guy go nuts, another version of it might make a nut go normal. He's talking to UP now." Poindexter stabbed the air intently with his cigarette as he spoke. He leaned over his desk as if to say, "You're the doctor. Why didn't you see this?"

But Dr. Thistlebank was numb. He could only stare. He had expected answers, but not ones so neat, so pat, so useful. At last, he murmured faintly, "But what about the vaccine?"

"You think that's the worst, do you?" He paused only long enough for the doctor to nod vaguely. "It sterilized your patients, right? Well, there's your birth control. Permanent birth control. I talked to a fellow at WHO. He said they could handle fifty million bucks worth a year. To him, the stuff's a miracle."

Dr. Thistlebank got the point. He should have seen it. He might have settled the lawsuits early by spotting

the glorious luck of the side effects. He could have become rich by making the right deals. Bought them out himself.

But now it was too late. He stared at his knees. Dimly, he noticed that his fists were balling his trousers. "But how does all this solve the problem now?"

Poindexter snorted in disgust. "I worked that out last night. The patients' lawyers will let the insurance companies settle out of court. They'll pay a nickel on the dollar, but everyone will be better off."

"How?"

"They'll pay off with UBM stock, which they'll get cheap from UBM. And then they'll buy every share they can for themselves. They don't expect to lose a penny in the end. That stock's going to go up like a rocket. Your patients will wind up with more than they're suing you for. And the insurance companies will get all their money back and then some."

His tone relaxed as he finished. He stubbed his cigarette out. "It's a damned good investment now, Luther. You should buy all you can. I'm going to, the fee from you and every penny I can get my hands on."

Dr. Thistlebank twitched. The message of his freedom had reached him, but he was still gripped by the threat of losing his practice, his income. He wasn't very alert. "Fee?" he yelped.

Poindexter stared at him calmly.

"Sure. You charged me, didn't you?"

"But that was nickel and dime stuff!" The hurt was obvious in his voice. "Ten bucks a throw. Not. . . . Not. . . ."

"Fifty grand is what I figure."

"But. . . ." Dr. Thistlebank paled. A narrow line of sweat popped out on his forehead.

"Look, you charge according to the size of your patients' pockets. Well, so do I. No one comes to me unless they can afford me. And you can, Luther."

"But what will I live on when my savings are gone? I can't practice!"

"I think you can. The computer system is what got you into trouble. It let your greed get out of hand. You never had any trouble before. If you get rid of it, I think you can get your coverage back. Though for a higher premium. After all, you're a bigger risk now."

Dr. Thistlebank moaned.

But six weeks later he was still practicing. The patients were still coming, though they were fewer. The waiting room was the same, except for the six patches of more lightly colored paint along one wall. The Epsolm salts still sat behind the intercom.

The big differences were in his personal life. The summer place had been sold. And his wife had just filed for a divorce.

She felt she would rather be married to Alvin Poindexter. ★



GALAXY BOOKSHELF

Spider Robinson

The Last Unicorn, Peter S. Beagle, Ballantine, (pages unknown), \$1.75

A Fine and Private Place, Peter S. Beagle, Ballantine, 256 pp., \$1.50

Lila the Werewolf, Peter S. Beagle, Capra Press, 42 pp., \$2.50

The Apocalypse Papers, The Firesign Theatre, Apocalypse Press, 14 pp., priceless

Good Taste, Isaac Asimov, Apocalypse Press, 36 pp., priceless

The Book Of Virgil Finlay, ed. Gerry de la Ree, Flare/Avon, 127 pp., \$4.95

Sturgeon, Theodore Sturgeon, Alternate Worlds Recordings, time unknown, \$6.50

A Hole In Space, Larry Niven, Ballantine, 196 pp., \$1.25

A World Out of Time, Larry Niven, Holt, Rinehart & Winston, 243 pp., \$7.95

Zen and the Art of Motorcycle Maintenance, Robert M. Persig,

Bantam, 406 pp., \$2.25

The Compleat Enchanter, L. Sprague de Camp & Fletcher Pratt, Ballantine, 420 pp., \$1.95

The Armies of the Moon, Gwendolyn MacEwen, MacMillan/Canada, (pages unknown), \$3.95

The Deep, John Crowley, Berkley, 186 pp., \$1.50

Rocannon's World, Ursula K. LeGuin, Ace, 136 pp., \$1.25

Sandworld, Richard A. Lupoff, Berkley, 188 pp., \$1.25

I AM A MEMBER of the OOTNO Society.

In fact, it's one of the most important things I do with my life, a holy duty and a constant joy. It's what I'm doing here, right here in front of your eyeballs when a part of me would much rather be writing that next novel.

The world is full of many people, and these may be divided into

OOTNO and NOOTNO. You're either one or the other: One Of The Nice Ones, or Not One Of The Nice Ones (well, there *are* borderline cases, but not nearly as many as you'd think). I conceive my duty as a member of the OOTNO Society to be to introduce OOTNOs to each other whenever feasible. We are locked in a titanic struggle for the fate of the world with the NOOTNOs, and communications are essential. Unhappily, we have yet to devise a uniform that the NOOTNOs can't copy or counterfeit—we lack an Arisian Lens—and so we have to rely on recommendation.

The NOOTNOs are pretty well organized, my friends—time we got it together.

That's why I'm here. Books, records, any form of art, can also be subdivided into OOTNO and NOOTNO—or perhaps what I mean is that *artists* can be so classified, on the basis of their works. And turning folks on to good books and good writers is about the most fun you can have out of bed.

So it is my great joy to tell you this month about a pack of beagles, none of which is a dog (although one of them *is* a wolf).

You see, it was an obit in *Locus* that turned me on to Edgar Pangborn, one of the greatest OOTNO discoveries of my life.

And that obit was written by Peter S. Beagle, and the things he had to say about Edgar had OOTNO written all over and through them.

So I was in Bakka II, the new Yonge Street branch of Toronto's Bakka (the best sf store—and mail-order service—I know; see Dec. 1976 "Bookshelf" for details), and I said, "Tell me about Peter Beagle," and they put *The Last Unicorn* and *A Fine and Private Place* in my hands and said, "OOTNO."

Many of you may already know *The Last Unicorn*—I understand it is something of a "cult" book among many OOTNOi (so how come none of you turned *me* on?). But if you don't, I'm here to tell you that you ought to—it'll do your soul more good than a piping hot bath and ice-cold gin. It is the finest fantasy I've ever read, just plain one of the finest books I've ever read, and it's almost scary to realize that it all came from one human heart. There's magic in that book, and I mean that both kinds of literally.

It is the story of the last unicorn in all the world, and of her search for her vanished brothers and sisters, and of what befell her on the way. It is also the story of her companions, simple Molly Grue and Schmendrick the Nitwit Magician, of the Prince who loved the unicorn though he knew her not and the King who hated her though he knew her, and of the unspeakably terrible

Red Bull. It is a story of good and evil, of courage and fear, of hope and despair, and it will exhilarate and tear at your heart if you are any damn good at all. I don't say that it's a perfect book (I don't suppose anyone read any book anywhen without feeling that he/she could have improved it here and there—that's why some of us become writers. Poetic justice, eh?)—but I do contend that if you finish this book and don't like it, don't *value* it, then you ain't OOTNO.

That's a pretty heavy statement, but I'll stand by it.

And, the cover painting by Ger-vasio Gallardo is alone worth the \$1.75 Ballantine is asking for it.

* * *

Almost as highly recommended is *A Fine and Private Place*.

Like *Unicorn*, it is a fantasy. And like *Unicorn*, it is one of those "fantasies" that seem truer than what we are generally pleased to call reality. It's a love story—but not like any love story you ever read before. Two of the lovers, for instance, Michael and Laura, are dead. Another of them is an old man named Rebeck, who has lived undiscovered in a cemetery for over twenty years, talking only with the ghosts. Another is an irascible raven with a really sarcastic mouth on him, and he is surely the greatest and most constant lover in the book.

Virtually the entire story takes place in the cemetery, and it has more life to it than a two-year-old's birthday party.

It's not the same kind of book as *Unicorn*, and you may like it less. Death and Love is a somewhat weightier topic than Love and Death, and the overall tone is a hair too somber for my taste. But there's humor aplenty, and a full measure of joy and hope, and when you think about it, the deadliest mistake he could have made with a theme like this would have been to come all over cute and heartwarming.

Try *Unicorn* first, by all means. But having done so, don't omit to read this one too. Needless advice: by the time you finish *Unicorn* you'll find yourself wanting to read anything by Beagle—old shopping lists, term papers, notes to the milkman (are you out there, Mr. Beagle? I'm at R.R. #1, Hampton, Nova Scotia BOS ILO) . . .

* * *

So Jeanne and I were visited recently by our friend Susan Ellison, who is definitely OOTNO, and I can prove it because when she saw *Unicorn* on my desk (guests get to sleep on my desk) her eyes lit up and we spent the next hour grinning hugely and rapping about it. And a week or so after she disappeared back into The Smoke To The South, *Lila the Werewolf* appeared in my mailbox.

And a wondrous strange book it is. Here I just said I want to read anything by Beagle, and . . . hoo boy. How do I handle *this* one?

Lila is one of the most depressing stories I have ever read, beginning and ending in despair. Its male lead, Farrel, is a young man selfish and stingy with his caring, who has abandoned all hope of joy and takes a dim pleasure in picking at the scabs that betrayal leaves on his soul. His only real gift is acceptance, and so he accepts rather equably the discovery that the woman who's been sharing his apartment for the last month, Lila, is a werewolf. But he accepts only the parts that don't threaten him, and is destroyed by this dishonesty.

It is also one of the most wildly hilarious stories I have ever read, and I know that sounds contradictory—but it's true. The damn thing is just *side-splitting* in spots. Yet if it may be said that there is such a thing as tears of laughter, Beagle's humor in *Lila* is a laughter of tears. It is of a kind I think of as "hip-Jewish" laughter, bitter city laughter, a laughter that is supposed to dimly cloak the agony beneath. On examination I find the agony to be self-indulgent, self-inflicted and secretly enjoyed. Which would be all right if it were physically possible to hurt *only* oneself, which it is not. Despair (that is, the delusion that responsibility is abdicable) is seductive, and Farrel, if not Beagle, has seduced

himself—surely a comic sight. It only hurts when you stop laughing.

And in spite of this, I enjoyed *Lila*. It is exquisitely formed, beautiful in language and subtle in construction, and it has some immortal lines in it. I particularly liked the building superintendent, whose "eyes were almost purple, and they bulged a little, straining out—the terrible eyes of a herald angel struck dumb."

It's a fascinating story—it's just that the only slightest note of hope in it is when the neighbors chip in to pay the super's fine for shooting silver bullets out of an unlicensed pistol. I'm deeply grateful to Susan for sending it, and terribly concerned for Peter Beagle. Ballantine's newest promo sheet hints at an "upcoming major work" from Beagle. I look forward to it eagerly—but also, having read *Lila*, with some trepidation.

I feel like sending the man a get-well card.

* * *

What I didn't mention about *Lila*, because it didn't seem to fit anywhere, was that it is all of 42 (admittedly packed) pages long, no more than 10,000 words, and that it sells for \$2.50.

Huh?

Well, it's what you call a chapbook. That means "a pamphlet containing poems, ballads, stories or religious tracts," according to *Ameri-*

can *Heritage Dictionary*. According to me it means "a short story that costs more than two *Galaxy*'s." Chapbooks get printed in small editions by small publishers, and they're a Very High Status item. Capra Press, which printed *Lila*, also has 17 other chapbooks available, by heavyweights like Henry Miller (*On Turning Eighty*), Ray Bradbury (*Zen and the Art of Writing*—he oughta know), Anais Nin, Lawrence Durrell, and others. I think you have to show at least a B.A. to get one.

Now, I can see worth in the notion of chapbooks. Maybe a really *fine* piece of writing shouldn't have to be imbedded in a magazine or antho like a diamond in a pizza—I'd love to have a chapbook of *The Man Who Traveled In Elephants*. And the economics of small-publishing are such that, believe me, nobody's getting rich at \$2.50 a hit.

But there's a little note in the back that says that 75 numbered handbound copies were signed by the author, and right there you start to slip over the line into the-book-as-artifact, into the-book-as-trading-card; and that's where I start to get itchy, and that's why I started this whole chap on rapbooks (keep going—pay no attention, you'll only encourage him). Because there are two more chapbooks here on this month's review pile, and they disturb me greatly.

The Apocalypse Papers and *Good*

Taste are the first two volumes of Apocalypse Press's new Science Fiction Chapbook series. The former is by the Firesign Theatrazanies, the latter by Isaac Asimov. Let me quickly dispose of their content, *as stories*: Firesigners Bergman, Proctor, Ossman and Austin (say that three times fast with marbles in your mouth and you'll never need a dentist again) each offer a couple pages of vaguely science-fictional gibberish (much like this column, come to think) than which their dullest album is funnier—a total of 13 pages plus intros and biblio/discography. Dr. Ike presents a 31-page story which is contrived (albeit *well* contrived) and cardboard, an overextended anecdote resting entirely on its final telegraphed pun—fun, but not much. Understand—I *love* and assiduously collect both *The Demented Four* and *The Prolific One*—but this is some of their worst stuff, flatter'n a two-dollar tire.

As such, neither is worth the space I've spent on them already. But here's the meat. Each of these chapbooks was printed up in two editions of 500 copies apiece, 500 "signed in the plate" and 500 individually autographed: the Regular and the Deluxe. Then they bound 'em by hand with blue twine and *destroyed the plates*. Neither book "will ever again appear in print in this form," publisher Alan R. Bechtold promises.

Bechtold obviously noticed that

rare old copies of *Weird Tales* command incredible prices—not for their intrinsic worth, but as rare artifacts. So he created artificially rare artifacts. The lucky first thousand get autographed copies for five bones apiece (if I correctly understand this press release—the books have no price on 'em), and *then* comes Phase Two. Once they sell out (if they haven't already—again, this press-release is a little vague), Apocalypse Press promises to undertake a sort of mail-order auction service, whereby speculators . . . I mean, lovers of fine fiction can swap back and forth, jacking prices sky-high in a twinkling—minus a modest ten percent for Apocalypse as auctioneers.

I'm *glad* neither of these pamphlets is much worth the reading: suppose they were *good* . . . and available only to an elite composed of rich collectors?

And the thing that horrifies me the most is that the *third* contribution to this capitalistic ripoff venture will be by Harlan Ellison! With artwork by Ron Cobb! The last two people I'd have expected to go along with a scheme to artificially inflate the value of their work by restricting its availability.

Frankly, fans, I'm aghast: this venture sounds NOOTNO to me, and I urge you not to support it. In fact, I'm not gonna print Apocalypse Press's address.

Ah, but here's another OOTNO in the pile.

Gerry de la Ree was, with his wife Helen, responsible for *The Best of Stephen Fabian* (see Nov. 1976 "Bookshelf" for the rave) a book I greatly liked. So when I saw his name my eyes perked up. *Then* I saw the title, *The Book of Virgil Finlay*, and I knew I was in Fat City.

I've seen a lot of collections of "SF Pulp Art From The Golden Age," and frankly most of 'em bore me. There sure were some club-handed artists working in them days, and if you lack (as I do) the nostalgic glow of having grown up on them, they seem mostly embarrassing today.

But Finlay is timeless and eternal, a genuine genius—and even his staunchest fans may not appreciate the true extent of his genius until they've seen this folio. Because one of his most amazing aspects was the phenomenal attention he gave to detail, his exquisitely painstaking work with cross-hatching and stipple, the amazing spectrum he wrought of "black and white"—all of which tend to drop out in pulp-paper reproduction. Finlay's vision always came across—but with blurred edges.

The Book of Virgil Finlay has exquisite repro, and nearly all its plates are original-size (not as hard as it sounds: Finlay did his magazine illos "same-size," the same size they would appear in

print. This is extremely unusual—but think how much *more* detail would have been lost if his works had had to be shot down in size.). The excellent paper stock allows you to fully appreciate the insane difficulty of stipple work—and the incredible subtlety that makes it worthwhile.

(Let me see if I can explain stipple. You want to indicate the shadows on a character's face, okay? You could use the flat of your pencil, and lighten up on it where you want the shadow lighter. Or you could use an air-brush where you want it to lighten up. Or a dozen other ways. *Or*, you can stipple the way Finlay did. You dip the finest pen-point you can find in ink, and make a dot—allowing *only the ink* to touch paper. Then you wipe the point clean, dip it again and make another dot. Several hundred dots later, you have a shadow. You want lighter shadow? Make smaller dots.

Finlay sometimes did *entire plates* that way, using dots the way God uses molecules.)

Finlay's genius was best suited to occult and fantastic themes, and these predominate in this collection. Most of the plates originally ran in *Weird Tales*, and the stories they illuminated are identified by title and author. They're arranged in chronological order. But let me tell you the best part: there're *120 of them!* Furthermore the book can be had for a mere \$4.95. Clearly, this

SCIENCE FICTION REVIEW



An Informal & Irreverent Science
Fiction & Fantasy Journal
Edited & Published by
Richard E. Geis

Featured in #20: Interviews
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man and Tim Kirk.

And, if it can be squeezed in,
an up-to-date, revealing, fas-
cinating interview with Theo-
dore Sturgeon.

John Brunner's column, "Noise
Level."

The SF Art Review column:
"The Gimlet Eye" by John Gus-
tafson.

"The Alter-Ego Viewpoint."

Many, many reviews of new &
recent sf, small-press pubs, & a
host of letters.

The editor's day-by-day "Allen
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SCIENCE FICTION REVIEW
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is the buy of the month. Even better, it may knock some of the absurdly inflated value offa those rare old copies of *Weird Tales* . . .

Finlay's 1971 death was untimely, as is proved by the almost frightening excellence of the last two plates, illos for J.G. Ballard and Brian Aldiss stories. Hearty thanks to Beverly Finlay for allowing us to see this collection, and thanks to Gerry de la Ree for his excellent selection and for a moving and informative introduction. I shall now devote my energies to locating any other Finlay portfolios in existence—and I urge you to do samewise.

More OOTNO! My cheeks hurt from smiling.

Sturgeon is the latest release from Alternate Worlds Recordings, which is as far as I know the only record company in the world that has yet to release a NOOTNO. This particular disc is—oh, had you guessed?—Theodore Sturgeon reading from his own works, and it's one of AWR's most striking records yet.

The first selection is "Bianca's Hands," one of Ted's most incredible stories. He himself tells an anecdote about an editor who read "Bianca's Hands," flung it across the desk and threw Ted out of his office, swearing that he would never so much as *look* at another

story by such a foul-minded pervert. It is clearly one of the most *horrific* horror stories of all time, and as with *Lila* I admire it tremendously but can't exactly say I "enjoy" it. Creepy, man, and Ted's soft, gentle reading really brings it to . . . uh . . . life.

The second selection, "The Huckle Is A Happy Beast," is also one of Ted's most-famous stories, and I like it but not a whole lot.

But the third piece is an excerpt from Ted's long-awaited new novel, *Godbody*, a short segment he calls "Britt Svenglund"—and friends, it sounds like *Godbody* will have been well worth waiting for. This is the real Sturgeon, the man who has for nearly forty years been exploring all the forms and facets of human love. "Britt" is, as the liner notes say, "a poetic and lyrical celebration of art, of touching, and of love," and it hints at a masterpiece. On the strength of it alone I recommend the album (write Alternate Worlds Recordings, 148 East 74th Street, New York NY 10021), and I'm *dying* to read the novel.

Oh yeah, they're also incomprehensible liner notes by Samuel R. Delany, and the jacket illo is a reprint of the fabulous cover Ed Emshwiller did for *Fantasy & Science Fiction's* all-Sturgeon issue—much nearer original size.

Eight books to go, and I can feel

that damned little black star (the one at the end of every column, turkey) creeping up on me. And that sort of reminds me of the new Larry Niven collection.

Six of the nine stories in *A Hole In Space* are more or less gimmick stories, technological puzzles in which character-growth is subsidiary to plot. Nothing wrong with that, but in at least four of the stories the gimmick is identical: teleportation. Worse, the stories are #2-5, and by the last one you've heard some of the same speculations four times running.

Larry had an essay in an earlier collection in which he outlined several story-gimmicks that would be inherent in any development of teleportation. These are them, faintly fleshed out, and by the fourth one I was wishing he'd just written a novel on the subject and had done with it. Ah well, they're not *bad* stories, just sorta sketchy, and if they'd been scattered throughout the book I might not have minded so much.

Also the collection has a splendid science fact essay, "Bigger Than Worlds," which contains about a hundred *more* story ideas; and "The Hole Man," an excellent yarn with a powerful ending. On the other hand, there's a short-short crime story, "\$16,940.00," which doesn't belong in an sf collection and ain't much of a story besides.

On the *other* hand (sounds like Gil Hamilton), there's "The Fourth

Profession" (is that a lispng pun, Larry?), a 50-page novella which is among the best things Larry ever wrote (one of the few readable things I ever found in a *Quark* collection, its original appearance). It reminds me just enough of my own Callahan stories to tickle me—even though the resemblance is superficial—and it's well-built.

I come up with 65% on the Spidermeter; I enjoyed it, but it's by no means Larry's best.

* * *

The first story in *A Hole In Space*, "Rammer," is also the first chapter of *A World Out of Time*, Larry's newest novel. Both "Rammer" and the rest of the book have appeared in *Galaxy* (the latter as *Children of the State* a few months ago), so perhaps it is both redundant and unseemly to say much about the book here. I liked it, enjoyed it, admired parts of it tremendously, and kept turning pages until I was done. At that time I wished there'd been just a hair more emotional depth—but then it wasn't meant to be that kind of a book. It rests on Larry's gift for logical extrapolation, his incredibly fertile imagination, and his talent for teasing you along, and it rests there pretty comfortably at that.

Oh yeah—Rick Sternbach's cover is—as always—beautiful. But they spelled his name wrong again.

And now for the king-hell

blockbuster OOTNO of the year, a book that may literally change your life.

It's been a long time since I've read a book that impressed me on so many levels at once as *Zen and the Art of Motorcycle Maintenance*. The three solid pages of critical raves in the front of my copy amuse me, because they remind me so much of the Twenty Blind Men who were introduced to an elephant: each quote seems to be talking about a completely different *kind* of book altogether, and they are all accurate. All I can say is, *Zen* is probably the most extraordinary *thing* I have ever read. It took me months to read it . . . in fact, I believe I'm *still* reading it.

On one level it is simply what its title implies: an essay on motorcycle maintenance which emphasizes *attitudes* as the mechanic's most important tool ("The study of the art of motorcycle maintenance is really a study of the art of rationality itself. Working on a motorcycle, working well, caring, is to become part of a process, to achieve an inner peace of mind. The motorcycle is primarily a mental phenomenon.").

On another level it is a philosophical exposition, which in Korzybskian tradition transcends Aristotle. On another level it is a totally rational proof of the existence of God. On another, the wrenching story of how arriving at that philosophical watershed drove Per-

sig literally insane. On another, a psychological novel of a man trying desperately to relate to his son—to a son who was fathered by a personality that no longer inhabits Persig's body.

In another sense it is the enormous and gripping science fiction story (in no way hampered by its literal truth) of how an entire species was condemned to confusion and misery (and perhaps destruction) by the outcome of a power struggle between two schools of philosophy, centuries ago in ancient Greece.

It is, incidentally, a handbook for the staving off of that destruction, even now, in the eleventh hour; a guidebook for the resolution of the awful (and *artificial*) dichotomy between man's technological brain and his human heart and soul.

Although Persig and certainly his publishers might be horrified to hear this, I maintain that *Zen* is *sf*, whether you take that to mean speculative or science fiction (or speculative or science *fact*). It is a close look at the most basic assumptions of science, and no one who claims to think or care about technology can safely ignore it. I quoted it extensively in a panel at MidAmeriCon on "My Favorite World of Tomorrow"—it seemed to fit.

Read it, and find out *exactly* what Quality, that mysterious, undefinable, everywhere-evident entity, really is. With luck, it will turn your

world upside-down, the way it did Persig's—and mine.

The bookracks are glutted with Grand Classics From Da Golden Age, all done up in new covers, and you don't need me to tell you that most of 'em are of interest only to historians and nostalgia-buffs (and English majors in need of a thesis). Here is a happy exception, one of those rare books that travels so well through time that it will be quite enjoyable in five hundred years. I'm not even a fantasy buff (in fact, I'm an admitted ignoramus about fantasy—a condition which Lin Carter has promised to cure), and I just love L. Sprague de Camp and Fletcher Pratt's *The Compleat Enchanter*.

The title is not precisely correct: three of the five novellae de Camp and Pratt wrote concerning Harold Shea are in this collection. The other two, "The Wall of Serpents" and "The Green Magician," are already available in book form, as *Wall of Serpents*. What this is, is the two once published in book form as *The Incomplete Enchanter* (I love triple puns), plus the original novella-length version of "The Castle of Iron" (also available in novel-length under the same title). Hence the new title.

Puff, puff. Got that?

Forget it. Just buy the book. I learned more about Norse mythol-

Perform a death-defying act.



Stop smoking.

Give Heart Fund
American Heart Association

ogy, Spenser's *Fairie Queene* and Ariosto's *Orlando Furioso* than a week in the library could have taught me, and I had a cracking good time along the way. Harold Shea is one of the most delightfully *realized* characters in sf—you feel you'd know him if you met him on the street—and he undergoes a pleasing and consistent growth in the course of the three novellae. Is anyone reprinting *Wall of Serpents*? I'd love to find out what happens to Harold *next*. (Do you know I've *never* read the Pratt/de Camp "Gavaghan's Bar" series? Never seen a copy—is anyone reprinting *them*?)

There's also a fascinating afterword by de Camp, "Fletcher and

I," about Pratt and their collaborations, that definitely enhances the book. OOTNO all the way.

Mail response has been good on sf-oriented poetry, and so for the second time I hand over the reins to my resident poet, friend and neighbor, Anne Trudell. When I gave her *Aniara* to review (see December, 1976 "Bookshelf"), she made the mistake of raving to me about a book called *The Armies of the Moon*, by Gwendolyn MacEwen. "Okay, keed," I said, "review that one too." She'll never learn.

Here's Annie:

Some might quibble whether MacEwen's book is sf or not. I doubt that she intended it to be, but it is written in the shadow of the American moon landing and many of its images would be more familiar to sf readers than to a reader of only mainstream fiction.

What makes this a really great book of poetry? Well, I could read it about a hundred times and never get bored with it. It shakes the soul, mostly because it is about the soul, done not in the idiom of fields and flowers, but of moon walks, mad seamstresses, the Flat Earth Society, sea beasts, and buffets at the Savarin. Into the commonplace MacEwen constantly injects an element of the cosmic, and surprises you into the realization that the world

isn't safe for doldrums after all. Sometimes she does this with humor, sometimes with a chill, but always with kaleidoscopic intensity.

All of this makes for quite entertaining poetry to be sure, but what makes one come back to the book again and again is the very real mysticism and metaphysics it contains. The cosmic is there in MacEwen's poetry not just for effect but because it is a part of man's reality. Man's rejection or ignoring of this does nothing to mitigate its effects or its expression in his acts:

On the television screen
Two ghostly blobs
of men dissolve
On the rim of
a lunar crater
And I know exactly
what they're hunting down
Hour after hour
in the seas without water

And if nothing else, MacEwen's poetry shows that the immensities of space are nothing beside the immensities within man:

Computers map
the territories
of nether suns
Where galaxies
are graphic castles
giants own
Now up the weightless slopes
of time he [the astronaut] climbs
Through vacuous doorways
to the gasping dark beyond

Thanks again, Annie, and thanks to Gwendolyn MacEwen for suggesting that *Galaxy* is a graphic castle giants own—Mr. Abramson is flattered.

* * *

The little black star draws nearer; barely time for some minis (to foil charges of sex discrimination, next month I'm going to start calling them mickeys).

The Deep, by John Crowley: quite a number of people have mentioned this book in letters, and there's a cover-blurb by Ursula LeGuin that is *highly* complimentary. I'm sorry—I just couldn't finish it. I found it turgid and confusing, fatally handicapped by the nearly identical names which make it impossible to recall who's who, and boring even when I *could* figure out what was going on.

You see, Red Senlin's eldest son, Younger Redhand . . . I mean, Red Senlin's *Son's* son, Younger Red Senlin . . . no, no, *Sennred* . . . I mean, Old Redhand's son Sennred, who is actually *younger* than Younger Redhand . . . anyway, his brother Fauconred, see, is trying to steal the throne of Redred . . .

I suggest you leave it Unred.

Rocannon's World, by Ursula K. LeGuin: the only thing I've ever read by Ms. LeGuin herself that I didn't care for. The language is beauteous, some of the characters just great—but the story itself limps

and drags jerkily, and a really tremendous (when you think about it) ending comes across like an anticlimax.

A genuine disappointment, I guess because of the height of my expectations.

Sandworld, by Richard A. Lupoff: three convicts, a fat red-neck guard and a youngprettysexy social worker on their way to San Quentin drive straight into the Twilight Zone, and even the final "science fictional" explanations don't get them out again. Alien vampires put me straight to sleep. A bionic turnip.

By now some of you are ready to vote *me* out of the OOTNO Society—on account of six months ago I promised you a half-column on Harlan Ellison, and *eight* months ago I promised you a big spread on John Brunner, and I haven't delivered either one yet. Next month for sure. (This is a commitment as reliable as "The check is in the mail.")

I know you're expecting me to end with an atrocious pun, so I'll just have to pass on the story of the young sf fan who once put on the top half of a pink satin tuxedo and threw a brick through the police station window.

He offered no explanation for his behavior until the moment when he washed the ink from his fingertips and said:

"Now I can truthfully say I was once printed in weird tails." ★

WHO MURDERS, WHO DREAMS

jeffrey goddin



**Now and in the future,
murderers are hunted
by their dreams!**

MARANTZ DIDN'T NOTICE as, with a deft touch, Phil dropped half-a-dozen tiny white spheres into his drink. He talked on and on. . .

"You'll think I'm old-fashioned, but this business of going from place to place in those damned plastic capsules. . ."

He stopped in mid-sentence, gave Phil a startled look.

"Lehman, I feel. . ."

Then his body began to jerk. Phil avoided looking at Marantz's features; they weren't pretty, locked as they were in a typhoid grimace as the spasm shook him. It was over in ten seconds. The tiny spheres which Phil had dropped in Marantz's drink were morphules, creatures that hatched in the warmth of the blood and immediately released a neurotoxin as part of their growth process. They were a perfect murder weapon, thought Phil, as he slipped out of the booth and drew the curtain. The hydrochloric acid in Marantz's stomach would have dissolved the morphules by the time a patrol arrived.

Phil had left orders that they were not to be disturbed. The waiter

probably assumed that they were lovers, since Philes were being encouraged as a method of population control.

He did not allow himself time to gloat over his victory, but searched quickly for a plasti-cab. Phil was lucky tonight. One of the tinted capsules, like the eye of a giant insect, came to rest almost as he stepped from the building. Phil rose into the cloud haze that covered the city and allowed the unerring machine to follow the coordinates that he punched into its driveface.

The city was shrouded in thick fog where he came to rest. A river was being rejuvenated not far from his flat, and the atmosphere was pumped full of steam and carbon-dioxide to encourage plant growth along the banks. When the door slid back the low-oxygen air hit Phil's lungs like a wet blanket. He knew that he must get home soon. It was a half-mile from the platform to his flat, and the combination of unhealthy atmosphere and the possibility of derelicts haunting the fogs made him set off at a rapid pace.

This was a mistake. Soon he was out of breath, and only half-way home. As he paused to rest two shapes loomed out of the fog.

They were both dressed in tattered spacer uniforms, and both held small hand-stunners. He recognized the look in their eyes, the look of men who had failed to be re-conditioned to the Terran environment. He tried a bluff.

"Name, rank, station!"

"Elliot, thermal scientist second grade, Arctural satellite."

The other man smiled grimly and pushed his stunner into Phil's stomach.

"Your credits. All of them. Now!"

As often when he went out at night, Phil was carrying a minimal amount of money. He knew that the man who hadn't responded would be furious. But all he could do was hand over his thin wallet.

The spacers grabbed the wallet out of his hand, emptied it. The instant that the taller man realized that Phil was no prize his foot lashed out in a plexis kick and Phil was down.

As the spacers moved in to finish him off with their boots, the full irony of the thing hit Phil: Tonight, when he had disposed of his one enemy, the spacers would dispose of him.

Phil Lehman closed his eyes and prepared to die.

There came the sound of a scuffle, the ripping-cloth snarl of a stunner. Phil opened his eyes to see two patrol officers holding one of the spacers. The other was spread-eagled on the street, twitching spasmodically.

"Are you all right, citizen?"

Phil stood against the pain in his stomach, stumbled and grabbed one of the officers for support. Gradually his head cleared.

"Yes, yes, thank you."

"We'll accompany you to your residence."

* * *

Once inside Phil poured a stiff drink and flipped on the Environment. It had been close, so close. . . He gratefully let his mind be carried away by the pictures that flowed across the quartzite ceiling, the music that flooded the room on a variety of comprehension levels. He had tuned in to one of the local stations, and the show would continue until midnight. Afterward, for the more demanding citizens, the insomnia crowd, there would be complete dramas, or intellectual puzzles to decipher.

He let his exterior mind follow the pictures, his nerves unwind into the threads of music. For the first time in months Phil felt truly happy. The man he had killed was a private agent who, due to the bounty system, would not have told anyone the identity of his suspect, Phil. Since the government had gone over to the bounty system as a more efficient means of tracking down its enemies, there were any number of private agents competing against one another. Phil's anonymity was secure.

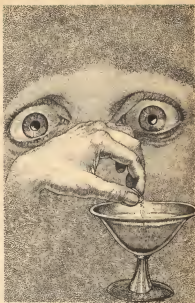
As often in the past he let his mind seek out a half-dream that pleased him. He blacked out the walls and turned down the Environment. The images began to form. . .

She was tall, with long black hair and pale skin. Her eyes tilted upward slightly, and her lips were a trifle small, but perfectly formed. Together they were exploring the past through one of the new time-variable systems. They walked between a dusty row of buildings where nothing moved but the wind—what they used to call a “ghost town.” Phil knew from his history tapes that these towns had sprung up in the early days of his country’s expansion in response to a mining industry which as often as not collapsed. Or they were on the trails where “cattle drives” once passed. The history techs had reconstructed their images so perfectly that a native of the era would not have known the difference.

Some part of Phil’s fantasy mind had chosen one of these towns as a locale for the encounter. As always, the girl was beautiful. Each time, in fact, she seemed more lovely. He wore a gun, as befitted an inhabitant of the day, and now his hand rested on its butt as he searched the empty buildings.

One of the structures caught his eye, and he stopped to investigate. The girl pressed up against him, her curiosity mingled with fear. Phil pulled his gun and kicked open the door.

The building still had all of its furnishings, although the inhabitants had apparently abandoned the town. There were soft couches along the walls, elaborate candelabras above



green gaming tables, a complete bar. He half-expected an old-fashioned “barkeep” to come out a side door and ask what they would have to drink.

But no one appeared. Phil went and selected a liquor, filled glasses for them. They settled on one of the soft plush couches, drank until the bottle was empty, and then forgot about the bottle. . .

Her lips were so soft, her long cool fingers so sensitive as they curled around his neck, her thin body so firm and eager. . . They stretched out on the wide couch and he drew her close. . .

Phil was awake in an instant. It seemed as though his dream had hardly begun. He checked the time. No, it was time to go to work—all right. He quickly showered and shaved, then paused at the door.

A message had been thrust under the door while he slept. Phil unfolded the creamy paper and read, in neat script:

I hope you know what you are doing, but I think not. You have severely misunderstood your options and are thus making mistakes. I think we should get together in the MCL today for lunch and discuss the matter.

Phil broke out in a cold sweat. He did not recognize the writing. There was no signature, no indication as to how he should recognize the man in the company cafeteria when he appeared. Had he been found out at last? He knew that Marantz had been close, but these people always worked alone. No, the only thing to do was to meet the fellow. For a moment Phil considered taking some morphules along to lunch. He thought of their cool plastic container resting in the refrigerator. No, and by the way. . . He got the morphules and flushed them, container and all, down the toilet.

Phil Lehman was a draftsman. He was good at his work. He was also

rich, not from any recognition of his talents, but because he had stolen several hundred thousand credits of Communitech funds four months earlier. He had done the job alone and, he thought, had left no traces—that is, until he had been contacted by Marantz. But it was too late to speculate on how he might have been found out. He could only move ahead.

Lately Phil's work had been more and more concerned with the area along the river. There were new spiralling apartments, needle-thin office buildings, the recreation areas with their characteristic mushroom shape, the greenery on top—all had sprung to life from Phil's capable hands.

It wasn't that difficult. Structural stresses, basic proportional matters and weights were all in the computers, as were the idiosyncracies of the different types of land in the vast city. All Phil had to do was add that touch, that creative element of adornment, of material texture, that human touch that would make the buildings each slightly different from all others of the type, and thus more livable.

He worked hard that morning, and was surprised when it was time for lunch. He had actually forgotten his assignation. Should he keep it at all? The note was cryptic, and to answer it by his presence would be a kind of admission. But the alternative? Constant watching and constant suspense. On his way through

the outer office Phil decided.

In a flash he was in the long blue-lit room where food was still prepared by hand for that, yes, that human touch. Phil assumed that his friend would find him, and he was not mistaken.

He looked up from his martini to find a small, florid-faced tech grinning down at him. He pushed out the opposite chair with his foot, took another sip of the near-pure gin.

"Mr. Lehman, Mr. Lehman, how good to finally make your acquaintance! I am Engleman, Richard, and I have had the privilege of studying your work. You are," he paused, "one of the best."

Phil examined the light green eyes that met his gaze above a large nose, small neatly trimmed moustache. The other's speech inflection was just a shade off, despite the Germanic name. Not a Terran birth, Phil guessed. To the point:

"Your note indicated something other than appreciation of my work."

"My note? Why, I sent you no note!"

"This morning, under my door. . ." Phil stopped. Was this Engleman being coy, or was this some dreadful mistake? He scanned the room: There were few people there, a cluster of female techs giggling in a corner, a few draftsmen from his own office, a dark girl seated alone near the food line.

Phil studied the girl for a moment. She was pale, with long blue-black hair. He couldn't see her eyes through the heavily tinted glasses that she wore. He wished frantically that he had looked more closely at the writing, but no, it had been in a kind of neutral script. And he had destroyed the note immediately.

"Perhaps," mused Engleman, "you have an unknown admirer."

"Perhaps."

"Mr. Lehman, how would you like to take on a small job, outside of your Communitech work? I know," it seemed as if he looked more closely at Phil, "that you do not have the highest paying trade in the city, although you may have something squirreled away. . ."

Phil searched Engleman's smiling eyes. It was almost a hint, but not enough, that he knew about the theft.

"Oh, but then it might have been you who stole all of those credits a few months ago."

Phil didn't blink, and smiled wanly:

"If I had, I'd have hardly stayed on Terra. But you spoke of a job. . ."

"I," said Engleman, leaning closer, "am a man of business. I have, in fact, a very special business."

He flipped his lapel, a quick motion, and Phil thought that he caught a tiny gleam of rainbow color. He leaned back, and sud-

denly, before his mind's eye, there was a thickly foliated garden, with a mulatta walking toward him with eyes like. . .

A pleasure merchant! The long outlawed trade of the city, being plied by a tech! —if Engleman really was a tech. In fact, if Phil had not himself frequented one of the gardens on the Moon, he would not have understood the image. But Engleman had guessed that he would understand, and had been right.

"But how, in the middle of the city. . ."

"This will not be built," said Engleman, in a parent-to-child tone, "within the city. You are familiar with the wastes to the north of Metropolis A, where the radiation dumps were. . ."

Where the dumps *were*! They were still off-limits, as far as Phil knew. But this outlander seemed to know a lot.

"Yes, you heard me correctly. There is no radiation there now. It suits the government to keep the land fallow, in the event that they might use it for one of their own schemes. And it is not patrolled, except on the perimeter."

"But how could customers. . ."

He could answer his own question. The customers would be very rich. They would have developed their tastes in the outworlds and would, quite probably, enjoy the thrill of a clandestine entry.

It would be a daring operation indeed!

"And you want me to design the actual garden?"

"Precisely."

"Do you know the trouble I could get into?"

"Of course. But you are a prudent man. And, I think, an avaricious one."

Was this another veiled hint?

"Yes, I suppose I am. Give me some time to think, to do some roughing out. I could meet you. . ."

"Next week, out at station A. I might have something to show you."

During the week following his encounter with Engleman, Phil worked steadily and efficiently, and came home early each evening, that he might begin his dreaming earlier. He had grown very fond of the dark girl, and dreaded the time when his trained mind might reject her in the name of variety.

On the very night before he was to again meet Engleman, Phil dreamed that he and the girl went to the seashore. He was not a water person, all air and intellect, but he chose the sea for its exotic implications. He imagined the air flowing through her hair, the coolness of the night. . .

They walked along the loose sand, his arm around her waist. She still wore the two-piece suit which she had worn that day. His hand

marvelled at the firmness of her skin over her hips, the perfect in-curve of her waist. Suddenly she turned to face him, opened her strange violet eyes into his. . . He pressed her gently to his chest, feeling the downy coolness of her back as his hand trailed down to her hips. Her sharp breasts pierced his skin. . .

Phil awakened with that strange feeling of anti-climax that his dreams had all been producing lately. No matter how early he fell asleep, the main dream simply would not be finished. He had even risked taking the time from normal tension-reducing dreams to flesh out his fantasy. . . He looked at the clock. What the Hell? It was barely midnight. Then he remembered his meeting with Engleman.

II

Phil took the plasti-cab to the northern sector of Metropolis A. Just before he landed a patrol flyer locked parallel with him and landed a few yards away. He got out, catching a series of strange scents on the night air, and stood to wait for the officers.

The taller of the two demanded identification, which he had. Phil noticed that the other looked uneasily around as his identification was checked. It was indeed a rough part of the city, and a Friday night as well. There were a series of spacer bars here, where the least sophisti-

cated segment of the population gathered for drinks and fights in the old pre-galactic style, but with off-world hand weapons.

"What are you doing in this sector, Draftsman? It's not your kind of place."

"I have the need to loosen up, on occasion."

Phil debated bribing the officers, but, catching the smile of the taller one, he decided to proceed along this line.

"One develops tastes, you see. . ."

"I understand," said the officer, who Phil now saw had a long white scar from ear to chin, "But we'd hate to have to carry your body back tomorrow morning."

"I won't stay long, just long enough. . ."

"Right. You've had your warning."

The two officers disembarked quickly, leaving Phil in the open street. He fingered the small blaster in his pocket. It had taxed all of his ingenuity to get the weapon, and he thanked his stars that he had not been searched. Trust the company reputation.

Three blocks. He passed the small bars lit with fluorescent guiders, green and purple predominating. There were subliminal cues in those signs, but he firmly shut them out. The magistrates had decided that there could be one section of the city that would not be too strictly cleaned up, perhaps with the

hope that some of the superfluous population would eliminate itself. Phil walked quickly through the sector.

A beautiful mulatta beckoned from a doorway, a woman with the peculiar sandy tint of the Martian colony from another. No, nothing on the level of a Pleasure Garden here, simply dangerous old-fashioned booze, sex and drugs, with the possibility of a really exotic disease thrown in. Perfect for the spacer tastes.

Three young men staggered from one of the side streets, out into Phil's path. He saw that their drunkenness was feigned quickly looked around, saw no patrols, and pulled out his blaster. The trio froze, sized him up, then sidled away, muttering.

Station A was the least sophisticated station in the city, which was ironic, since it had been the first to be established during the long reconstruction of the city. Yet it still had the original diner, cab landing, bar, and even a few stores, clustered beneath the transparent shield that magnified the stars into shivering globes of light. Phil walked down the dirty central corridor, through the heavy smells of stale urine and wine, found a bench and settled down to wait.

Half-an-hour later Engleman arrived, dressed in a surveyor's outfit. He even had a small clearance badge on his lapel. He carried a tight bundle under his arm.

"Go into the restroom and put this on, quickly."

Phil went into the john and unfolded the bundle. He found an outfit similar to Engleman's, complete with security badge. He quickly slipped it on, bundling his own clothes back into the package. The blaster he slipped into one of the breast pockets of the uniform.

"Ah yes," said Engleman, as Phil emerged, "now we are ready. Follow me."

"Just a minute. Will these uniforms. . ."

"Yes, they are real uniforms. Relax, Mr. Lehman, I've seen to everything."

They walked through the station out to the perimeter. A high metal fence with its own power source threw a faint glow for several yards on each side. This was the visible boundary of "civilization."

They walked along the fence to the left for perhaps fifteen minutes in silence. A silvery figure came to view ahead, a figure that held a long-range blaster.

"Halt. Identify."

"Surveyors First, two persons."

Engleman advanced and held out his identification. Phil slowly reached into the pocket of his coveralls and found his own. The guard noted the two luminescent badges.

"What's your business at this time of night?"

"Periodical surveillance of the dumps," said Engleman, as he held out a small recorder with visual at-

tachment which he had produced from his coveralls. "We're checking luminosity as a measure of any residual radiation."

The guard stepped back.

"Proceed."

A section of the fencing slid back, and the two men entered the waste sector.

One of the first things that Phil became aware of was the weird fragrance of flowers. He couldn't see them, but the scent was overwhelming, a mingling of spices and acid animal odors. Engleman produced a pocket light and flashed it around.

Rank vegetation filled the area, and over the top loomed blossoms unlike anything Phil had ever imagined. They were like baroque carvings, with huge dangling pistils and stamens protruding from variously shaped clusters of petals. He noted one in particular, reddish, with petals like feathers, that seemed to be a vine running in around all of the others. He began slowly to approach it, already distinguishing in his mind the carnal scent. . .

"Mr. Lehman! Many of these plants are psychoactive, not to say outright dangerous, and the Escarlen vine that seems to have caught your attention is one of the most dangerous. Needless to say, we will have to make certain protective provisions for our customers."

Customers. Immediately the difficulty of establishing a Pleasure Park out here began to assert itself.

Could Engleman have lured him out here on a mere pretext? Was he, after all, Engleman's quarry? But what could the man hope to gain by taking him out here? A confession, perhaps?

"You're wondering, of course, just how our customers will be able to get to the Garden? I happen to know that the government is considering loosening the perimeter guards. They need the manpower in the city. And the few guards that stay could be bribed. The fence, of course, must stay, but there are ways around—or over—that."

A black path wound through the foliage, and Phil followed cautiously in Engleman's steps. The thought crossed his mind that here, among these exotic flowers, would be an excellent place to eliminate his would-be associate. But then, how would he deal with the guard?

They travelled perhaps two miles through the strangest terrain that Phil had ever seen on Terra. The huge blossoms, oranges, reds, purples and unearthly blues lined the path and seemed to beckon him off into the darkness. They were, of course, radiation mutants, but the dumps had long ceased to be active, while the mutants flourished and bred true. . . .

Suddenly the light failed to touch anything but blackness. Engleman switched it off, and Phil found that they were in a large clearing. He turned, and the lights of the city just paled the sky behind them.

"This clearing," said Engleman, "is fifteen kilometers in length, two in width, covered mainly with ash. The actual layout, of course, I will leave to you. There is no real reconnaissance over this area, excepting the bi-yearly geodetic check, and in two months we can have the gardens built and camouflaged."

"But what will happen when they start to develop this area?"

"There are several reasons," mused Engleman, "why they won't, for many years to come. You've been working on the river project, I believe? Yes, inner-city problems are going to be of paramount importance for several years. And all of the crucial control centers are in the southern part of the city, near the new areas that I happen to know," he laughed, "have been mapped out by the coordinator for the next expansion. By the time that this area is ready for development—or rather, by the time the government is ready—I will have made enough credits to more than justify my efforts, and yours. I will simply pull up and go elsewhere."

It was a convincing argument. Phil breathed the exotic fragrance of the night flowers, once again felt that subtle pull on his senses. Perhaps the flowers contributed to his curious state of mind.

Because it suddenly became clear that, for all of his imagination and implied friends in high places, En-

gleman was a fool. There were too many possibilities of discovery, beyond the aerial survey teams and the perimeter guards. The patrons of the gardens might even be followed to the dumps. No, Phil became determined to extricate himself from the whole scheme.

"So," he could almost feel Engleman's icy grin in the darkness, "you are going to help me?"

"I don't know. There are many loopholes, besides the need for me to find time to do the job."

"That could be easily arranged. I could have you transferred to the northern sector for . . . hypothetical studies."

Phil did a mental flip. That much pull! He didn't trust this little Engleman at all.

"No, I don't think I'll take the risk."

"After I took the risk of filling you in on all of my plans."

Engleman walked off a little way, played his light over the near wall of plants through which the two had walked.

"I wasn't going to mention this, but I really do need your services." He approached Phil again. "I know who was responsible for that disappearance of funds four months ago. One of the easiest investigations of my career. The guilty party, I might add, is not so very far from here. . . ."

Before Phil had actually formulated the thought, his hand had found the small blaster and the

night was heavy with the scent of burnt flesh. He picked up Engleman's light, flicked it off to test his night vision, then began to backtrack toward the fence. Phil felt a surge of exaltation, and quickly stifled it. He had to keep his mind clear and plan his every move for the rest of the night.

There was still the guard to deal with. He walked slowly through the night, guiding by the stars above him. Soon he saw the faint luminescence of the fence ahead.

At that moment there came a sharp pain in his left arm. Phil had strayed into the plants and one of them had tasted him. He shook his arm, testing the light numbness. There came a slight dizziness, which quickly passed. He moved ahead more slowly.

Phil had only two choices: he could try and bluff his way out, explaining Engleman's absence as best he might, or he could take on the guard.

There was a certain lucid madness on him that night. Perhaps it was the plants. When he saw the guard just beyond the luminous fence he knew what he would do.

"Guard, come here quickly, my friend's hurt."

The sentry half-jumped, for Phil had come up without his light, wheeled around with blaster leveled. For a tense half-second Phil was sure the guard would shoot. Then:

"What's the matter with him?"

"One of those damned mutant plants. It stunned him."

The guard had himself been warned about the plants. He slid back the gate and moved forward, a light in his hand. When he saw Phil he paused a moment, then came forward. He had slung his blaster across his back.

The light played across the brush. Weird flower heads nodded back in mock greeting, and that was all.

"Where is he?" asked the guard, growing suspicious.

"Here."

Phil shot him through the mouth and immediately turned away from the falling body. He then wiped his prints from the blaster and flung it deep into the mass of plants.

* * *

He moved as quickly as he dared through the northern sector. He had recovered his clothes and had tossed the disguise in the first incinerator he saw. There were officers patrolling by twos, and once he was stripped and frisked. He moved on.

The sector was in full swing. Loud laughter, an occasional feminine voice lifted in outrage, eerie music from the garishly colored nightspots—all contributed to the carnival atmosphere. Phil decided that the best course would be to follow a couple of officers on their route, provided that they didn't stop anywhere.

He chose a likely-looking pair. In

a few blocks they became aware that he was following them and turned back to frisk him. Finding him harmless, they gave him his third warning of the night and continued on their way, while he followed at a more discrete distance.

There was a cab station at the end of the sector, where the river made its most northerly loop. Two figures were just looming out of the shadows to Phil's left as a plasti-cab came softly to rest. He rushed in and slammed the door.

Now Phil let the primitive rush of joy overcome him. Once again he had foiled his enemy. The feeling lasted and increased as he reached the flat. He immediately flipped on the Environment, took a quick shower, and lay down to let his mind unwind completely. He expected great things from this night's fantasy.

By the time the system switched itself off he was adrift in a cloud of exquisite sensations, a mist of color with pale blues, silvers and magenta. He looked to the point in space where all of the colors seemed to converge, and suddenly there she was.

She had never looked so beautiful. A faint breeze off of a nearby river floated her long black hair away behind her as those upward tilted eyes sought his. She was dressed in a gown of diaphanous black which clung to her boyish chest, her narrow waist, and blossomed out around her long slender

legs. He took her hand then, and they began to wander along the river.

They came to a bridge of many spans that arched high over the water, lit by yellow arc lamps that have haloes in the fog. There on the bridge he kissed her, and their kisses had all of the thrill of his first boyish love.

"We are going to my house," she whispered, as she gently took his hand and led him across the old bridge.

The section of town was old, indeed. It had characteristics of the British Georgian and Victorian which he recognized from the history books. They paused before a tall narrow place with two stacked balconies, barred by a high wrought-iron gate.

Phil put his arm around her waist as they mounted the pale marble steps, threw back the wide panelled doors. Inside was an opulent parlor of pearl grey, with light-colored wooden furniture and wainscotting. They sat on a long, low Victorian chaise lounge and she bent over him, brushing his brow lightly with her lips. In the light of green-shaded lamps she began to take on the aura of one of his more archaic fantasies, that of the vampire, the beautiful lover whose kiss is death, the exquisite lingering death of the true decadent.

Phil ran his hands up her long cool arms, behind her neck. He reached for the top clasp of her

bodice. She gently pulled away from him, teasing, but he took her more firmly and buried his face in her hair.

Then, in his ecstasy, he began to talk to her, this beautiful figure of his dreams, to tell her of his life, of all that he had done. She could understand, the terrible boredom, the thrill of his first theft, the double thrill of stalking his two enemies. She could understand, for her life was founded on the ecstasy of the unexpected, the challenge of erotic adventure.

He told her of his all-consuming excitement at finally outwitting Engleman, of the knowledge that he could never be caught, and he believed that she really understood, for her face grew hot, her lips more lingering.

Once again he reached out to take her.

She stood, and smiled, the breathless smile of the true vampire. Her eyes bored into his with a fantastic pleasure, her small rounded lips half-parted, as if sharing in his triumph, and she bent to give him a burning vampire kiss that left him gasping for breath. She also reached into a small pocket in the back of her gown, between her buttocks, and took out a small long-barrelled blaster.

"Philip Lehman," she crooned, as the dream split like a shattered glass, "in the name of the Government of the City, I claim you as my prisoner." ★





DIRECTIONS

Dear Mr. Baen:

I'm extremely puzzled by your December 1976 Editorial *Epistle to the Christians*.

You talk of the necessity of using "religious impulses" to boost us off into space.

Well now—from wide reading of other Editorials, Articles, letter columns, and Fan-zine discussions, I've gathered a fairly concise idea of what "religious impulses" are.

"Religious impulses" are nothing more than senseless, superstitious archisms [*sic*], founded in ignorance, upon the weakness of emotion, and maintained in blind, brain-washed faith.

They are beliefs with no foundation, no support, no reasons, no facts behind them, only the status quo of millenniums [*sic*] of repeated assertion.

Some people maintain such "religious impulses" because these beliefs were so deeply etched into the groves [*sic*] of their brains in early childhood and reiterated and pounded deeper during growing up.

When grown, they are unable, despite overwhelming evidence to the contrary, to throw off these shackling beliefs.

Those who retain these "religious impulses" refuse to think for themselves. They will not see the world objectively, scientifically, rationally. They simply ignore the cold, hard facts and inconvenient aspects of science in their incautious mania to believe the literal assertions of their illogical convictions. They are afraid to face life as it truly is.

Surely, Mr. Baen, you must recognize, that in our enlightened, educated times, most

science fiction readers are mature, intelligent people, whom have no such primitive "religious impulses" at all.

They've grown up, as I say, and realize what "religious impulses" actually are: just left-over superstitions formed back in times of ignorance and fear.

I find your statement "Thus if God spoke unto the Prophets of Israel. . . ." most baffling.

Who is this "God"?

And what has he to do with us today, and our exploration of space, if he lived thousands of years ago in the "Late Neolithic"? And how in the universe could anything he said way back then be relevant to us today?

How do you even know if he ever really existed? After all, there are no authentic records dating back that far.

Please, would you explain this?

What I really find so disturbing, shocking even, is your sixth paragraph.

You instruct us to instigate subversion, insurrection, and revolution, commit criminal acts, engage in treason, or do anything else necessary, if it serves to "further the progress of humankind into space."

Do you *realize* the implications of what you've said?

Can you *visualize* the results of application of your directive?

How can you *justify* what you've suggested?

Also, you imply that we should go into space simply because this "God" says we should.

Why should we let him dictate to us what we should do?

Isn't allowing this "God" to direct our efforts and lives contrary to human progress, and detrimental to the development of the human race?

Surely, it is clear, anyone such as this "God," who tries to restrain us, to control us, to decide for us, we must resist with all our might, and, if necessary, destroy.

Isn't this clear?

We must fight for our freedom from Him just as we have fought for our freedom from others before.

I think this is clear.

Again, please, who is this "God"?

Lee Smith

Unlike religious beliefs, which arise out of them, religious impulses cannot be "founded in ignorance"; they are a built-in facet of the human condition, like territoriality or the sex drive. And while they can indeed be perverted, witness ritual cannibalism, claim-jumping and rape, they cannot be founded on perversion, since they are earlier in the scheme of things.

And what is this "overwhelming evidence" to which you refer? Science is nothing more than a complex set of observations and deductions based on the well tested but fundamentally unverifiable inference that if condition 'A' leads to resultant 'B' once, it will do so every single time unto the Final Trump, as it were. Or, to put it another way, Science is a modern religion whose single article of faith is that reality is consistent, and therefore its mechanisms can be understood through observation and deduction. But it does not have a single thing to say about the underpinnings of that reality! Ask a scientist "Why is Nature consistent?" and he can but look at you blankly—or answer you as a non-scientist.

Finally, as for that especially dubious sixth paragraph, all the things you claim are being promulgated by it would further nothing but the disintegration of society, something hardly conducive to a flourishing space technology.

Dear Mr. Baen,

I was quite disappointed by your editorial "Epistle to the Christians." I too feel that God's commandment "Be fruitful, and multiply, and replenish the earth. . ." may have a greater meaning than it's literal one. However, if you were to limit population people would be more inclined to stay on the earth. Look around. There are very few idealists that want to "get off" and the rest will have no desire to leave as long as it is comfortable here. With a zero population growth things here are not likely to get much worse and will more probably make things even more

comfortable for the individual. Things will have to get much worse before enough people will decide a change is in order. So by limiting population you would be accomplishing the opposite of what you desire.

Besides, so far God has not been very cooperative in our search for reasonable methods of reaching the stars. Perhaps if more of us would listen to His commandments, instead of trying to suspend them, He would give us a hand.

Sincerely,

Clayton Fuller

Member Church of Jesus Christ
of Latter Day Saints
920 East Ada Ave.
Glendore, CA. 91740

Your view is curiously similar to that of doctrinaire Marxists: that any amelioration of social inequities should be opposed on the ground that if the masses are made less miserable the day of revolution will be thereby postponed. It is my conviction that any such doctrine is pernicious to the core. On more practical grounds, only a relatively wealthy society is capable of diverting the requisite resources for the development of a full-fledged space economy. Also, I think you underestimate both human idealism and human contrariness; for example in the year 2050 I imagine there will be at least one O'Neill colony manned solely by members of the Church of Jesus Christ of Latter Day Saints!

Galaxy
235 East 45th Street
New York, N.Y. 10017

I ordered this so-called science fiction magazine for a thirteen year old grandson. I'm sure glad I looked it over before giving it to him. Your filthy dope-damaged brain should be put out of circulation.

Kindly eliminate my name from your circulation department and refund the monies prepaid. If not done promptly I shall seek the help of the postal authorities.

Can't we talk this over?

GALAXY/IF S-F MART

Galaxy

if

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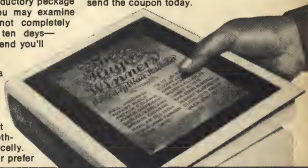
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